Supreme Court, U. S.
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IN THE

Supreme Court of the United States

OCTOBER TERM, 1978

No. 78- 78-259

BOSTON EDISON COMPANY,

Appellant,

v.

DEPARTMENT OF PUBLIC UTILITIES OF THE COMMONWEALTH OF MASSACHUSETTS, ET. AL.

Appellees.

ON APPEAL FROM THE SUPREME JUDICIAL COURT OF THE COMMONWEALTH OF MASSACHUSETTS

APPENDIX TO JURISDICTIONAL STATEMENT

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August 15, 1978

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COMMONWEALTH OF MASSACHUSETTS.

SUPREME JUDICIAL COURT FOR THE COMMONWEALTH,

AT BOSTON,

April 19, 1978.

IN THE CASE No. SJC-832

BOSTON EDISON COMPANY

vs.

DEPARTMENT OF PUBLIC UTILITIES

pending in the Supreme Judicial Court for the County of Suffolk No. 75-340, 75-341, 75-367, 76-304, 76-342

ORDERED, that the following entry be made in the docket; viz., —

The cases are remanded to the county court for entry of judgment in accordance with the opinion.

By the Court,

FREDERICK J. QUINLAN, *Clerk.*

April 19, 1978

BOSTON EDISON COMPANY

vs.

DEPARTMENT OF PUBLIC UTILITIES

HENNESSEY, C. J. These are five consolidated appeals from final decisions, orders, and rulings of the Department of Public Utilities (Department) in two separate rate proceedings involving Boston Edison Company (Company). In the first proceeding, D.P.U. 18200/18200-A (hereafter 18200/18200-A), the Department granted a rate increase based on 1974 as the test year. In the second, D.P.U. 18515 (hereafter 18515), the Department granted an increase based on 1975 as the test year. The appeals were filed in the Supreme Judicial Court for the county of Suffolk (county court) under G.L. c. 25, § 5. A single justice ordered the appeals consolidated, and he reserved and reported them without decision to this court. He similarly reserved and reported the Company's motion for a stay, which the Company has renewed, and several motions to dismiss filed by the Department. Because of the length of this opinion, a table of contents is appended at the conclusion.

We consider first those issues relating to the more recent rate decision, 18515. In so doing, we dispose of two appeals — filed by the Company and by an intervenor Stanley U. Robinson, III (Robinson), — alleging various claims of confiscation and challenging the propriety of various adjustments to the Company's rate base and cost-of-service calculations. We next consider the three appeals challenging the Department's earlier decision in 18200/18200-A. These appeals were filed by Boston Edison, Robinson, and General Motors Corporation (General Motors), an intervener in the proceedings below. Boston Edison and Robinson have limited their appeals in 18200/18200-A primarily to the issues also raised by General Motors, and these relate solely to rate structure. Specifically, the issues in 18200/

18200-A concern the propriety of the Department's partially exempting certain residential customers from the rate increase. Finally, we consider two motions to dismiss, made in the county court, which were reported to us by the single justice.

On May 11, 1977, shortly after oral argument on these appeals, the full court ordered interim relief for the Company by way of a $6,619,000 cost-of-service adjustment to cover increased property taxes.[1] We find no error in the Department's decision in 18200/18200-A. We conclude that the Department's decision in 18515 was erroneous not only with respect to the property tax issue mentioned above but also with respect to certain lobbying expenses and the disallowed adjustment for "AFUDC not normalized." Some of these errors are in the Company's favor, and one goes in favor of the ratepayers.

We take notice of the Department's recent decision in D.P.U. 19300 (19300), granting Boston Edison additional rate relief based on 1976 figures. Although that decision moots a number of the issues involved in these appeals, we nevertheless reach the merits of all the issues before us. *Wellesley College* v. *Attorney Gen.*, 313 Mass. 722, 731 (1943). See *Potomac Elec. Power Co.* v. *Public Serv. Comm'n*, 380 A.2d 126, 149 n.33 (D.C. Ct. App. 1977). We do so because the parties have fully briefed the issues, and because the questions raised are likely to arise again in the reasonably near future, evading judicial review again at that time. See *Potomac Elec. Power Co.* v. *Public Serv. Comm'n, supra.*

The net amount of items allowed and disallowed on appeal exceeds the amount of interim relief granted, but we conclude that a prospective rate adjustment is now im-

[1] The merits of the property tax issue are discussed in the cost-of-service section of this opinion, *infra.*

possible, since new rates have superseded those set in 18515, and since a rate increase may not be awarded retroactively as matter of law. See *Newton* v. *Department of Pub. Utils.*, 367 Mass. 667, 679-680 (1975); *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, R.I. , (1976).[a] We further conclude that a refund to Boston Edison customers also is not in order at this time. See *id.*; *Fryer* v. *Department of Pub. Utils.*, Mass. , (1978).[b] We remand the cases to the single justice for the entry of judgment.

I. History of the Proceedings.

On November 12, 1974, Boston Edison filed with the Department a proposed schedule of rates and charges designed to raise its 1975 revenues by about $70,000,000. The Department docketed this request as D.P.U. 18200 and held extensive public hearings. The Company had presented its direct case by May, 1975, but because interested parties had intervened in the proceedings, it appeared that a final decision would be unlikely until September, 1975. The Company, therefore, filed a petition for interim rate relief requesting an immediate rate increase of $47,700,000, pending a final decision by the Department on its full request. The interim request was separately docketed as D.P.U. 18200-A but, on the Company's motion, the two proceedings were thereafter consolidated. The Department evaluated these rate proposals using calendar year 1974 as the test year, and on September 30, 1975, it issued a decision and order which, as subsequently amended, authorized new rate schedules designed to increase Boston Edison's annual revenues by $29,538,000. The appeals from that decision relate primarily to the problem of rate structure. The Department found that residential users as a class had not contributed significantly to the growth in peak load demand for electricity. Consequently, the Department exempted the first 384 kilowatt hours (KWH) of monthly residential usage from the general rate increase.

Two and one-half weeks after the Department's decision in 18200/18200-A, Boston Edison made a second rate filing seeking $49,500,000 in additional annual revenues. The Department docketed this case as D.P.U. 18515, and again numerous parties intervened in the proceedings. This time, using calendar year 1975 as the test year, the Department determined on August 12, 1976, that the Company was entitled to $10,960,000 in rate relief. The Company and intervener Robinson — who argues that the increase is too generous — challenge that decision on numerous grounds relating to cost of service, rate base, and rate of return. The rate structure portion of 18515 is under advisement by the Department until the issues raised by the Company's request for increased revenues have been resolved.[2] In the meantime, the Department has permitted Boston Edison to collect a rate increase of $10,960,000 under the rate structure established in 18200/18200-A. Residential users remained exempt from the increase, to the extent of the first

[a] 358 A.2d 1, 20 (1976).

[b] Mass. Adv. Sh. (1978) 744, 752.

[2] We see no need to remand 18515 for additional proceedings concerning rate structure. We take notice that in 19300, the Department has fashioned a rate structure apportioning the most recent rate increase among Boston Edison customers and that it has abandoned the concept of the 384 KWH exemption. No purpose would be served by further proceedings in 18515, since Boston Edison could not collect a rate increase now based on 1975 as the test year. However, if any of the parties feels that a remand would be appropriate, this court will entertain a motion to reconsider this aspect of the decision filed seasonably and promptly.

384 KWH consumed each month, until the Department's superseding decision in 19300.

In connection with its motion for a stay in the county court, Boston Edison submitted two affidavits, one by Ralph M. Kelmon, the Company's treasurer (Kelmon affidavit), and the other by Robert D. Saunders, senior rate engineer in Boston Edison's rate research and forecasting department (Saunders affidavit). The Kelmon affidavit presented updated financial results for calendar year 1976 based on eight months' actual data and a four-month forecast. It also provided information with respect to the increase in the property tax rate in the city of Boston for the fiscal year that commenced on July 1, 1976. The Saunders affidavit presented updated information with respect to growth in 1976 sales over 1975 sales, also based on eight months' actual data and a four-month forecast.

When these consolidated appeals were reserved and reported by the single justice to the full court, the two affidavits were included in the record on appeal, but "without prejudice to the rights of the parties to argue to the Full Court . . . the question of whether or not said evidence is relevant, material, necessary, or otherwise properly includible in the record on appeal." No evidentiary objections were made at oral argument by any party, and we have admitted both affidavits in order "to bring the proof as nearly as reasonably possible down to the date of final decision." *Opinion of the Justices,* 328 Mass. 679, 687 (1952). *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.,* Mass. , (1976);[c] *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.,* 360 Mass. 443, 448 (1971); *Boston Gas Co.* v. *Department of Pub. Utils.,* 359 Mass. 292, 300-301 (1971).

[c] Mass. Adv. Sh. (1976) 2246, 2251.

II. Nature and Scope of Judicial Review.

Boston Edison alleges that the Department's decision in 18515 deprived the Company of the opportunity to earn a fair return on its investment. The Company contends, and properly so, that, to the extent that it asserts a claim of confiscation, it is entitled to an independent review as to both law and fact. *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.,* Mass. , (1976).[d] *Boston Gas Co.* v. *Department of Pub. Utils.,* 368 Mass. 51, 54 (1975).[e] *New Eng. Tel. & Tel. Co.* v. *Department of Pub. Utils.,* 360 Mass. 443, 449 (1971). *Mystic Valley Gas Co.* v. *Department of Pub. Utils.,* 359 Mass. 420, 424 (1971). In so far as any of the challenged rulings do not independently or in cumulative effect give rise to a claim of confiscation, the standard of review is as set forth in the State Administrative Procedure Act. G.L. c. 30A, § 14 (7), as appearing in St. 1973, c. 1114, § 3. *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.,* Mass. , (1976).[f] *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.,* 360 Mass. 443, 449 (1971).

III. Claims of Confiscation.

Boston Edison advances two theories of confiscation. It first alleges that the rate of return allowed by the Department in 18515 was unreasonably low, thereby depriving the Company of the opportunity to earn a fair return on its investment in violation of arts. 1, 10, and 12 of the Declaration of Rights of the Constitution of the Commonwealth and the Fourteenth Amendment to the Constitution of the

[d] Mass. Adv. Sh. (1976) 2246, 2249.

[e] Mass. Adv. Sh. (1975) 1865, 1869.

[f] Mass. Adv. Sh. (1976) 2246, 2249.

United States. Clearly this allegation entitles the Company to independent review as to both law and fact. However, Boston Edison seeks to have the court employ this same degree of scrutiny in reviewing each of the many cost-of-service adjustments subsidiary to the Department's final decision in 18515. For this reason, apparently, the Company alleges a second theory of confiscation — "confiscation by adjustment." The Company contends that, even if the allowed rate of return was not confiscatory, the numerous adjustments to cost of service "ensured that the Company could never earn the return to which the Department found it was entitled." We do not consider whether these allegations even give rise to a claim of confiscation because we conclude instead that Boston Edison failed to meet its burden of proving confiscation on either theory.

Confiscation occurs when the Department's ratemaking decision deprives a utility of the opportunity to realize a fair and reasonable return on its investment. *Boston Gas Co.* v. *Department of Pub. Utils.*, 368 Mass. 780, 789-790 (1975).[g] "A return is fair and reasonable if it covers utility operating expenses, debt service, and dividends, if it compensates investors for the risks of investment, and if it is sufficient to attract capital and assure confidence in the enterprise's financial integrity." *Fitchburg Gas & Elec. Light Co.* v. *Department of Pub. Utils.*, Mass. , (1977).[h] See *Permian Basin Area Rate Cases*, 390 U.S. 747, 792 (1968); *Federal Power Comm'n* v. *Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944); *Bluefield Water Works & Improvement Co.* v. *Public Serv. Comm'n of W. Va.*, 262 U.S. 679, 690 (1923). Yet, it is not enough for a utility merely to allege confiscation in the hope that this court will dis-

[g] Mass. Adv. Sh. (1975) 3088, 3100.

[h] Mass. Adv. Sh. (1977) 273, 277.

agree with the particulars of a complex decision and will supplant it with another more to the Company's liking. This court will not interfere with the exercise of the ratemaking power unless confiscation is clearly established on the record before us. See *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, 327 Mass. 81, 85-86 (1951); *St. Joseph Stock Yards Co.* v. *United States*, 298 U.S. 38, 53 (1936). Cf. *Fitchburg Gas & Elec. Light Co.* v. *Department of Pub. Utils., supra* at .[i] In the instant case, we are not persuaded that Boston Edison will suffer confiscation.

As in previous rate proceedings, the Department adopted and applied the "cost of capital" method of determining the fair rate of return on the Company's rate base. No issue is now presented as to the cost of debt capital or as to the capital structure of the Company. The Company maintains, however, that the 13% return allowed on common stock seriously understated the Company's cost of equity capital and that, as a result, the composite rate of return allowed by the Department — 9.49% — was confiscatory or otherwise contrary to law.

There is no dispute that the return on equity capital must at least equal " 'the amount which the company would have to pay in order to "hire" its equity capital under current conditions.' " *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, 327 Mass. 81, 88 (1951). We have recognized, however, that fixing the fair rate of return is a matter of judgment, not a mechanical exercise. *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, 360 Mass. 443, 474 (1971). The rate of return is not an immutable number, but rather one chosen from a range of reasonable rates and determined by the Department to be appropriate under the circumstances. *Id.* The question before us as to equity capital is whether the 13% figure was above the line of con-

[i] Mass. Adv. Sh. (1977) at 278.

fiscation. Having reviewed the record, we hold that the Department's cost of equity determination is not confiscatory or otherwise illegal.

Five witnesses testified as to the rate of return, and their estimates as to the cost of equity ranged from 11.2% to 15.5%. Each of these experts presented a sophisticated analysis that gave the outward appearance of objectivity, but, on closer scrutiny, it is apparent that the method applied by each contained inconsistencies. Each provided an opinion which a reasonable mind might accept as adequate to support a conclusion, see G.L. c. 30A, § 1 (6), but each based his analysis on assumptions that were controversial in themselves. The Department did not base its decision on the testimony of any one witness. Rather, the Department's written decision evaluates the strengths and weaknesses of each witness's testimony, culling from the mass of evidence those elements which, we agree, are worthy of weight. In so doing, the Department based its cost of equity judgment on a reasoned composite of all the evidence. That is a process which this court has strongly encouraged. See *Wannacomet Water Co.* v. *Department of Pub. Utils.*, 346 Mass. 453, 465-471 (1963). Compare *Boston Gas Co.* v. *Department of Pub. Utils.*, 368 Mass. 780, 804 (1975,[j] with *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, 360 Mass. 443, 474-475 (1971).

"[T]he return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks." *Federal Power Comm'n* v. *Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944). See *Fitchburg Gas & Elec. Light Co.* v. *Department of Pub. Utils.*, Mass. , (1977);[k] *Permian Basin Area Rate Cases*, 390 U.S. 747, 792 (1968). Clearly, the 13% return on equity satisfied

[j] Mass. Adv. Sh. (1975) 3088, 3124.

[k] Mass. Adv. Sh. (1977) 273, 277.

this standard. The Company's witness Benore arrived at 15.5% as his estimate of the cost of equity by comparing the potential return on the Company's shares with the return on industrials shares generally. This comparison is of minimal value because of the dissimilarity of the risks facing public utilities and those facing industrials. See J. Bauer, Updating Public Utility Regulations: Assuring Fair Rates and Fair Returns 107 (1966); Note, An Earnings-Price Approach to Fair Rate of Return in Regulated Industries, 20 Stan. L. Rev. 287, 289 (1968). The dissimilarity between utility and industrial shares is further demonstrated by recent history, since, according to the Company's own evidence, the two groups of securities have not been even roughly comparable since 1965.[3]

However, the record contains evidence allowing a comparison of Boston Edison's financial condition to that of fifteen other similarly situated public utilities. These figures were current at the time of the Department's decision, and they show that with a 13% return on equity, Boston Edison enjoyed returns commensurate with the returns earned by similar utilities.[4] The Company ranked at or near the bottom of the sample in several indicators of equity return[5]

[3] From 1960 to 1965, common stock prices of utilities performed in line with industrials. Since then, the price of utility stocks generally has declined 55% while industrials have declined only 1%. During the same post-1965 period, earnings for industrials have increased 77% as compared to 25% for utilities.

[4] The rate of return allowed on common equity was also 13% in 18200/18200-A, the Company's last previous general rate proceeding, also the subject of this opinion.

[5] The Company's growth rate in units sold was the slowest of the sample. The Company also ranked last in ratio of market price to book value, and it ranked next to last in earnings as a percentage of book value. The Department discounted the significance of the market-to-book ratio except in so far as it related to a potential

yet Boston Edison's stock yielded higher dividends than any other stock in the sample. More importantly, the Company's earnings per share were 10.54% of market price, using test year 1975 earnings and the year-end price. Equivalent figures for comparable utilities ranged from 8.84% to 15.24%, and Boston Edison's allowed yield of 13% was the sixth highest of the sixteen. The record as a whole does not sustain a claim of confiscation based on a comparison between Boston Edison and other public utilities.

In addition to being commensurate with the returns allowed comparable companies facing comparable risks, the return on equity "should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital." *Federal Power Comm'n* v. *Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944). See *Fitchburg Gas & Elec. Light Co.* v. *Department of Pub. Utils.*, Mass. , (1977).[1] Boston Edison failed to establish confiscation measured by this standard, as well. A poll introduced by the Company indicated that one out of every eight financial institutions would be attracted, at a 13% return, to the common stock of a public utility whose A-rated bonds were selling to yield 10%. Boston Edison's bonds are one step lower than A-rated, but the strong improvement in money market conditions between the time these investors were polled and the time of the Department's decision in 18515 caused the Department to conclude that a 13% return on equity would be sufficient to attract capital and maintain investor confidence. We agree.

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investor's evaluation of the comparative risk of investing in Boston Edison stock, a factor that is discussed *infra*.

The Company argues strenuously that its high debt-to-equity ratio makes an investment in Boston Edison stock uniquely risky. We note, however, that five out of the other fifteen utilities in the sample had higher debt-to-equity ratios.

[1] Mass. Adv. Sh. (1977) 273, 277.

Although the Company's bonds are not A-rated, the record shows that at the time of the Department's decision, bonds of a grade comparable to those of the Company had recently sold to yield 11.75%. This evidence cuts both ways. It shows a reluctance on the part of some investors to buy Boston Edison bonds, while the Company's return on equity is 13%, unless they receive a greater return than 10%. Nevertheless, it also shows quite clearly that, with a 13% return on equity, there were enough investors in the market willing to buy Boston Edison bonds if the Company were to pay a return slightly higher than that on which investors polled had previously premised their vote of confidence. Moreover, the financial market in which the Company operates improved substantially over the course of the 18515 proceedings. The Attorney General argues persuasively that this trend continued up to the time of oral argument in this case. At the beginning of test year 1975, the prime interest rate was 10.25%; by the close of the 18515 proceedings in May, 1976, the rate had dropped to 6.75%. As the Company's senior vice president testified, this drop in the interest rate, together with the general improvement in the stock market, has had a restorative effect on the value of the Company's stock: toward the end of 1974, the price of Boston Edison stock ranged from $15 to $17 a share; by the end of test year 1975, the price had risen to $22 a share; by the end of the 18515 proceedings, the stock was selling at $24.50 a share.[6] Clearly, there is an improving market for the Company's outstanding shares, and Boston Edison cannot claim confiscation based on lack of investor confidence.

The principal factor causing Boston Edison's witnesses to advocate a 15% return on equity was the Company's belief that the capital attraction standard of the *Hope*

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[6] In 1977, the stock reached a high of $28.38.

Natural case[7] requires the Department to allow a return on equity sufficient to maintain the market price of the Company's stock at a level slightly higher than the stock's book value. The Department concedes that the 13% return allowed in 18515 will not accomplish this result, and it also recognizes that, in a proper case, a market price lower than book value provides some evidence of confiscation. See, e.g., *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, Mass. , (1976).[m] The per se rule advocated by the Company finds no support in our cases, and we are not inclined to adopt it now. Experience has shown that, in making a determination as elusive as estimating the cost of equity capital, "mathematical formulas and rules of thumb are obsolete." 1 A.J.G. Priest, Principles of Public Utility Regulation 196 (1969).

The Company's principal argument here is that, if it issues new shares, their cost to the new buyers must equal the book value of existing stock in order to avoid "diluting" the equity of existing shareholders in the corporation. In order to accomplish this, the Company argues, the rate of return must be sufficient (1) to cover the cost of issuing the additional shares, (2) to absorb the drop in market price caused, apparently, by the temporary glut of Boston Edison shares, and (3) to then maintain a market price equal to the book value of shares previously outstanding. Boston Edison asserts that, in order to complete the massive construction program it has undertaken, the Company may decide to issue additional stock. It further asserts that, if it must issue stock at a price lower than book value, it will dilute the equity of existing shareholders and that, as a

[7] *Federal Power Comm'n* v. *Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944).

[m] Mass. Adv. Sh. (1976) 2246, 2259.

result, investors will not be attracted to Boston Edison stock at any price. The Company cites no case in which this has occurred, and we know of none.

The Department, of course, must set the rate of return high enough to preserve the financial integrity of the Company, but there was no showing in 18515 that the Company has been unable to attract capital in the past or that to issue common stock under present circumstances would jeopardize the Company's ability to attract capital in the future. The record contains speculation to that effect, but nothing more.[8] This is not a case in which the utility has a demonstrable inability to attract capital and where investors face a risk of continual dilution even as the utility finances its normal operations. In such a case, the utility might fairly allege that the dilution is attributable to State action, and this court has recognized that — as a prima facie matter, at least — "forced dilution is confiscation." *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, Mass. , (1976).[n] See *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, 360 Mass. 443, 477 (1971). In this case, however, Boston Edison's need for additional capital stems from a special project — a construction program of limited duration and unprecedented size. We cannot say as matter of law that the Constitution requires ratepayers to sustain the price of Boston Edison's stock

[8] The Company argues that the derating of its first mortgage bonds and the disappointing performance of its common stock indicate a lack of investor confidence in the Company. But, because of similar problems throughout the electric industry, it is equally likely that these signs merely show investor disillusionment with these two classes of securities, regardless of their issuer. See Katzin, Electric Utility Financing Today, 55 Ore. L. Rev. 479 (1976). The record shows that Boston Edison has tried novel financing techniques successfully in recent years. This, too, seems to be an industry-wide experience. *Id.*

[n] Mass. Adv. Sh. (1976) 2246, 2259.

above book value except to the extent absolutely necessary to maintain sufficient investor confidence to allow the business to continue as usual. Ultimately, it is investor confidence, not dilution considered by itself, that is the constitutionally significant criterion. "The due process clause has been applied to prevent governmental destruction of existing economic values. It has not and cannot be applied to insure values or to restore values that have been lost by the operation of economic forces." *Market St. Ry.* v. *Railroad Comm'n of Cal.*, 324 U.S. 548, 567 (1945). We are not persuaded that a market price lower than book value necessarily indicates a lack of opportunity to earn a fair return on equity. The record supports a conclusion to the contrary, namely, that investors are more interested in the return on the market price they pay than in the current book value of their stock

We find that the 13% cost of equity figure set by the Department is above the line of confiscation. The Company also argues that the determination is unsupported by substantial evidence, but we find substantial evidence to support any cost of equity judgment between 11.2% and 15.5%. Robinson argues that the 13% figure is so high as to be confiscatory of the ratepayers, but we disagree. The figure set by the Department falls within the range of permissible judgment.

Boston Edison's failure to establish the indicia of confiscation is equally fatal to the claim that it has suffered "confiscation by adjustment." The Company's only argument addressing the merits of this second claim is that the Department arbitrarily increased the Company's test year revenues and decreased its test year expense figures. As will be seen in the cost-of-service discussion, *infra,* the Department's adjustments were not arbitrary and, with three exceptions which we address, the adjustments of which the Company complains were not unlawful.

IV. Review Under G. L. c. 30A.

A. Calculation of the Rate Base in 18515.

A public utility's rate base is its total investment (less depreciation) in property that is used and useful to the public in providing utility service during the test year. E.g., *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, 360 Mass. 443, 450 (1971). The rate base ultimately adopted by the Department in 18515 was $986,692,000, which is about $40,000,000 lower than the $1,027,006,000 rate base figure proposed by the Company. Boston Edison contends that, in computing the rate base, the Department committed the following errors: (1) it based its computation on the Company's average investment during the test year rather than on its total investment at year end; (2) it excluded from the rate base certain funds — known as "compensating balances" — kept on deposit in various banks to ensure the availability of short-term credit; (3) it excluded the unamortized portion of the Company's investment in certain pollution control equipment which can no longer be used economically and which was not used during the test year; (4) it excluded the Company's investment in land held for possible future use; and (5) it reduced the cash working capital allowance includable in the rate base by rejecting the use of a standard accounting convention and instead estimating the Company's future working capital needs from evidence of the Company's actual experience.

1. *Year average* vs. *Year end.* In its proposed calculation of rate base, Boston Edison used year-end 1975 figures, which it urged the Department to adopt in order to offset the effects of attrition and regulatory delay. The interveners, on the other hand, urged the Department to use the "year average" calculation — that is, the average of the year-end figures for 1974 and 1975. It has become the De-

partment's established practice to use the year-average method, but in 18515 the Department departed from this method to include the full year-end value of the Mystic 7 station (Mystic 7), less depreciation, in the rate base. This adjustment gave Boston Edison approximately seven-eighths of the differential resulting from the two methods of calculation. The Company's protest on appeal is that the Department did not abandon its established practice altogether for the test-year 1975. There was no error.

The Department is not compelled to use any particular method for calculating the rate base, provided that the end result is not confiscatory — a matter in which the utility bears the burden of proof. *Fitchburg Gas & Elec. Light Co.* v. *Department of Pub. Utils.*, Mass. , n.5 (1977).[o] *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, Mass. , (1976).[p] *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, 360 Mass. 443, 453 (1971). In this instance, the Department tailored the application of the year-average and year-end methods to yield a fair and principled result.[9]

2. *Compensating balances.* The Company's calculation of rate base included $22,592,000 in compensating balances kept on deposit in various banks to ensure the availability

[o] Mass. Adv. Sh. (1977) 273, 277 n.5.

[p] Mass. Adv. Sh. (1976) 2246, 2250.

[9] The Company's reliance on *Southbridge Water Supply Co.* v. *Department of Pub. Utils.*, 368 Mass. 300, 308-309 (1975) (Mass. Adv. Sh. [1975] 2245, 2256-2258), is misplaced. In that case we held that it was error of law for the Department to apply the year-average method under the special circumstances presented. In this case, the Department has not adhered strictly to the year-average method; on the contrary, it has afforded year-end treatment to Mystic 7, a station that was in service for the last six months of the test year. For a related discussion of the *Southbridge* case, see note 13, *infra*.

of short-term credit. The Department excluded this sum from the rate base in 18515. Boston Edison concedes that its loan agreements with these banks do not limit the Company's ability to withdraw these funds, but it stresses that, as a practical matter, it must maintain compensating balances if it hopes to continue short-term borrowing.

The Department's objection is that the Company has not attempted to trace and measure what portion, if any, of the compensating balances are used and useful to the ratepayers. The record does not show the purposes for which the short-term credit is used; the Company has not broken down the $22,592,000 sum to apportion short-term credit between operating costs and capital costs, which are not includable in rate base. In such undifferentiated form, compensating balances do not reflect any measure of usefulness to customers asked to pay a rate of return on them. For this reason, the Department excluded the entire amount from the rate base, relying on our decision in *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, 360 Mass. 443, 460 (1971). There was no error. The same failure of proof has occurred here as occurred in that case. Moreover, the Company was put on notice by the Department's decision in 18200/18200-A that the need for compensating balances and the necessary amount thereof should be clearly established as part of a working capital lag study. In the absence of such evidence, it was not improper for the Department to exclude the Company's proposed rate base adjustment.

3. *Exclusion of the scrubber from rate base.* In 1970, Boston Edison invested $5,283,000 in a scrubber, a pollution control device designed to permit the use of inexpensive high sulphur fuel oil without increasing air pollution. The Company built the scrubber as an experiment which, if successful, might have saved ratepayers a substantial

amount in fuel clause charges. Tests showed that the scrubbing process did indeed work, but the scrubber has been permanently retired because changes in Federal air quality regulations have made operating the device economically unfeasible.

The Department has permitted the Company to recover the entire amount of its investment from the ratepayers. For this reason the Department has allowed the Company to amortize the investment over a ten-year period; one-tenth of the investment will be reflected in the rates, as part of the cost of providing electrical service, each year for ten years. But the Department will not permit the Company to earn a return on the unamortized portion of the investment in the meantime. For this reason, the Department excluded the unamortized portion from the rate base in 18515. There was no error. The record shows that the scrubber was not used or useful to the ratepayers during the test year and would not be put back in operation in the future. This court has sanctioned the Department's general policy of excluding retired plant from the rate base provided that the Department applies its policy consistently to the affected utility and provided that the exclusion does not have a confiscatory effect. See *Fitchburg Gas & Elec. Light Co.* v. *Department of Pub. Utils.,* Mass. , - (1977).[q] Special circumstances may necessitate an exception to the Department's policy on occasion, see *Boston Gas Co.* v. *Department of Pub. Utils.,* 367 Mass. 92, 101-102 (1975), but no special circumstances appear in this case.

4. *Plant held for future use.* The Company included $1,895,691 in its proposed year-end rate base as "plant held for future use." Of this amount, $1,663,000 was allocated

[q] Mass. Adv. Sh. (1977) 273, 279-280.

for land, and $232,691 for plant that had been retired in 1972. The Company introduced no plan for the use of either. There was no error in excluding the two items from the rate base.

When the Company anticipates a need for constructing a new plant, it buys land in the area under consideration, often well before the time when the land will actually be used in construction. The Company contends that, in the long run, a program of this sort might reduce the Company's total land acquisition costs. This may be true, but in the meantime the land is not used and useful in providing service to the ratepayers. Moreover, the Company remains free to sell the land at a profit, which goes to the stockholders, not to the ratepayers. One such sale occurred during the test year.

The Department's general policy is to exclude from the rate base items that are not currently used and useful to the ratepayers. E.g., *New England Tel. & Tel. Co.,* 11 P.U.R.4th 297 (Mass. Dep't of Pub. Utils. 1975). This policy is in accord with that of many jurisdictions, see 1 A.J.G. Priest, Principles of Public Utility Regulation 180 & n.138 (1969), and there was no reason to depart from it in this case.

5. *Cash working capital.* The cash working capital allowance in the rate base represents the amount of money the utility must supply from its own funds to meet operating expenses as they arise during the period between the rendition of service and the receipt of payment therefor. Ordinarily, the allowance equals 12.5% of those total annual operating expenses that require working capital. That is, the company should have enough cash on hand to cover forty-five days of operating expenses (12.5% of the year), on the assumption that there will be a lag of forty-five days between rendition of service and payment by the customer.

The forty-five day figure is a widely used convention, but it is axiomatic that the regulatory agency "may quite reasonably and properly take into account factors which reduce the need as well as those which increase it." *Alabama-Tenn. Nat. Gas Co.* v. *Federal Power Comm'n,* 203 F.2d 494, 498 (3d Cir. 1953).

Using the forty-five day standard, the Company included $30,457,000 in its proposed rate base as cash working capital. It included another $28,917,000 to cover an additional sixty-day lag in the collection of revenues associated with fuel expenses. The interveners objected that if the Department allowed both items in the rate base, it would in effect be allowing the Company a return on 105 days of working capital purportedly needed to cover fuel expenses.[10] The Company's witness had admitted on cross-examination, however, that there was a ninety-day lag for fuel costs, not a 105-day lag.

The Department, therefore, rejected Boston Edison's proposals and recalculated the Company's working capital needs according to the evidence. It allowed ninety days of working capital to cover fuel costs; sixty days of working capital to cover purchased power costs; and the usual forty-five days of working capital to cover all other operating expenses. The recalculation lowered the Company's proposed working capital allowance by $4.6 million. The Department's decision was supported by substantial evidence.

B. Cost-of-Service Adjustments in 18515.

The Department used the historic test-year approach in determining the Company's revenue needs. After calculating the adjusted average rate base for 1975, the Department considered the actual revenues and expenses for that year in order to determine the cost of service. It then made such adjustments as it deemed necessary to arrive at a proper basis for determining the revenues needed by the Company to enable it to earn a fair return on the rate base. Boston Edison maintains that in this process the Department overstated its test-year base revenues and understated its expenses, thereby depriving the Company of revenue to which it was entitled.

[10] Forty-five days' working capital for operating expenses plus sixty days' additional cash to cover additional fuel costs equals 105 days' working capital.

Specifically, Boston Edison argues first that the Department distorted the base revenue figure by adjusting the Company's calculation to include additional future revenues projected to be earned from Mystic 7, which had been included in the rate base on a year-end basis. The Company also contends that in computing its test-year expenses, the Department committed the following errors: (1) it disallowed an adjustment based on an estimated property tax increase; (2) it understated the average annual cost of refueling the Company's nuclear power plant; (3) it disallowed the Company's proposed tax adjustment for depreciation on "AFUDC not normalized";[11] (4) it understated the Company's income tax expense by overstating the amount of the Company's interest deduction associated with short-term credit; (5) it failed to annualize depreciation on certain additions to plant in service; (6) it disallowed depreciation on easements; (7) it disallowed certain lobbying and political expenses; and (8) it miscalculated property taxes on land held for possible future use. These alleged errors are discussed in the following paragraphs.

1. *The revenue adjustment.* The largest cost-of-service adjustment challenged by the Company concerns the Mystic

[11] See subsection 4, *infra.*

7 station. This is a 600-megawatt fossil-fueled generating plant that was put in operation in June, 1975 — thereby adding about 13% to the Company's plant in service. Although the station was in operation for only half of the test year, it would be in operation for the whole time that new rates would be in effect. For this reason, the addition of Mystic 7 greatly complicated the Department's task in 18515.

The essence of the test-year method is the correlation of revenues, expenses and assets (rate base) over a selected period of time. See, e.g., *Potomac Elec. Power Co.* v. *Public Serv. Comm'n,* 380 A.2d 126, 133 (D.C. Ct. App. 1977). The method has been likened to freezing the action of a motion picture in order to examine a single frame in detail. Note, An Earnings-Price Approach to Fair Rate of Return in Regulated Industries, 20 Stan. L. Rev. 287 (1968). The Department examines a test period — usually the most recent twelve-month period for which complete financial information exists — on the theory that the revenue, expense, and rate base figures during that period accurately reflect the utility's present financial situation and fairly predict the Company's future performance. See *Potomac Elec. Power Co.* v. *Public Serv. Comm'n, supra.* To the extent that known or anticipated changes in revenues, expenses, or rate base will distort the correlation among these elements, adjustments are made in the test-year data to reflect those changes. The approach depends on keeping the three elements in phase, however, and if an out-of-period adjustment is made to one, corresponding adjustments to the others may be necessary to preserve a fair relationship. See, e.g., *Los Angeles* v. *Public Utils. Comm'n,* 7 Cal. 3d 331, 336 (1972); *Pacific Tel. & Tel. Co.* v. *Public Utils. Comm'n,* 62 Cal. 2d 634, 644-645 (1965); *State ex rel. Utils, Comm'n* v. *Morgan,* 278 N.C. 235, 237-

238 (1971).[12] The Department's decision in 18515 stretched this principle almost to the breaking point.

All parties agreed that the test-year figures would have to be adjusted substantially in 18515 to account for the addition of Mystic 7 to the Company's net plant in service. Boston Edison proposed expense and rate base adjustments, and the Department accepted these proposals. The Department also made a revenue adjustment, however, adding about $11,200,000 of the projected increase in 1976 revenues to the 1975 base revenue figure. It did so on the theory that this increase was attributable to Mystic 7.

Boston Edison challenges the propriety of this action on appeal, and in the alternative, it challenges the size of the adjustment. The Company's position has considerable merit. The Department's action was extraordinary, and, if it were not for the magnitude of the related adjustments in this case, we would likely find that it was unsupportable. Cf. *City of New York* v. *Public Serv. Comm'n of N.Y.,* 42 App. Div. 2d 259 (N.Y. 1973). However, the Department carefully tailored its usual approach to suit the special circumstances of a difficult case. On balance, we conclude that its judgment was supported by substantial evidence and did not amount to error of law.

The Department had added the Company's full year-end investment in Mystic 7 to the rate base. The effect of this year-end treatment was to allow a return on about

[12] See also *Michigan Bell Tel. Co.,* 85 P.U.R.3d 467, 470-471 (Mich. Pub. Serv. Comm'n 1970); *West Keansburg Water Co.,* 83 P.U.R.3d 423, 427-428 (N.J. Bd. of Pub. Util. Comm'rs 1970); *New York State Elec. & Gas Corp.,* 88 P.U.R.3d 300, 306 (N.Y. Pub. Serv. Comm'n 1971); *Rochester Gas & Elec. Corp.,* 88 P.U.R.3d 271, 275-276 (N.Y. Pub. Serv. Comm'n 1971); *North Carolina Gas Serv. Div. of Pa. & S. Gas Co.,* 41 P.U.R.3d 91, 101-102 (N.C. Utils. Comm'n 1961); *United Inter-Mountain Tel. Co.,* 79 P.U.R.3d 499, 529 (Tenn. Pub. Serv. Comm'n 1969); *Gen-*

$72,500,000 of property that would have been excluded from the year-average rate base altogether if the Department had not made an exception to its usual practice. It must be emphasized that year-average calculation of the rate base has been the Department's rule, and year-end treatment, even for additions to plant during the test year, has been a rare exception in Massachusetts. The Department's discretionary decision to apply the year-end approach to Mystic 7 redounded greatly to the Company's benefit. This benefit was one of the premises on which the Department based its forward-looking revenue adjustment.[13]

Moreover, the Department made discretionary increases in test-year expense figures, thereby increasing the asserted revenue deficiency. The Department allowed the Company's adjustments for annualized depreciation, projected wages, and property taxes associated with Mystic 7, adding these out-of-period expenses to the test-year cost of service. The latter two expense adjustments have been allowed in the past without a corresponding revenue adjustment, see *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, Mass. , - (1976);[r] New England Tel. *& Tel. Co.* v. *Department of Pub. Utils.*, 360 Mass. 443, 481-482 and 490-491 (1971), but the annualization of depeciation on plant added during the test year is an unusual adjustment for the Department to allow. Like the year-end treatment for Mystic 7, this adjustment must be viewed in context; it was yet another element of a larger, singular exercise of regulatory discretion, namely the adjustment of test-year data to reflect a fair and accurate relationship among the rate base, revenues, and expenses.

eral Tel. Co. of Wis., 34 P.U.R.3d 497, 506 (Wis. Pub. Serv. Comm'n 1960); *Cheyenne Light, Fuel & Power Co.*, 79 P.U.R.3d 80, 86-88 (Wyo. Pub. Serv. Comm'n 1969).

[13] A somewhat persuasive argument can be made, on the authority of the *Southbridge* case, that year-end treatment for Mystic 7 was not discretionary, but required by law. See *Southbridge Water Supply Co.* v. *Department of Pub. Utils.*, 368 Mass. 300, - (1975) (Mass. Adv. Sh. [1975] 2245, 2256-2258). In *Southbridge*, the utility had taken a new reservoir into its rate base on the last day of the test year, thereby increasing its net plant in service by more than 60%. *Id.* at 304 (Mass. Adv. Sh. [1975] at 2250-2251). This court held that it was error of law for the Department to require year-average calculation in the special circumstances presented. *Id.* (Mass. Adv. Sh. [1975] at 2251). Clearly, the rule in *Southbridge* was relevant to this case, but *Southbridge* is distinguishable, and, although the question is a close one, we do not think it would be appropriately applied here, where Mystic 7 was in use for six months during the test year.

Boston Edison argues that there is no causal relationship between the addition of Mystic 7 in 1975 and the increased base revenues in 1976. Therefore, the Company argues, it is arbitrary and capricious to attribute any portion of the increase in retail revenues to the addition of Mystic 7.

We need not disagree with the Company's premise in order to reject its conclusion. Clearly, the addition of Mystic 7 did not cause retail customers to consume more electricity, and so it did not *cause* the base revenue figure to rise in 1976. However, the Company's argument overlooks the reason for making any adjustment to test-year data at all, namely to make the rates accurately reflect the relationship between rate base, revenues, and expenses while the rates are in effect.

An accurate relationship among these three elements might have been established if the Department had used a purely year-average rate base with virtually unadjusted test-year figures. Alternatively, the relationship might have been established by using a purely year-end rate base with forward-looking adjustments to the whole gamut of revenues and expenses. In this case, the Department determined that neither method would be appropriate by itself.

[r] Mass. Adv. Sh. (1976) 2246, 2255-2256.

The Department essentially used the former method to strike a balance among these three elements in 18515, except that it used the latter method with regard to Mystic 7. As to Mystic 7, the Department used (1) a year-end rate base; (2) a full year of Mystic 7 operating expenses (as will be seen *infra*), increased to reflect all the out-of-period expense adjustments requested by the Company in this context; and (3) an out-of-period base revenue adjustment designed to make the rates reflect (a) the fact that Boston Edison had built Mystic 7 to meet a projected demand and to turn that demand into revenue, and (b) the fact that the Company would enjoy this increased revenue at a time when the rates set in 18515 would be in effect. It is not necessary, therefore, to prove a causal relationship in order to conclude that an adjustment of the base revenue figure was appropriate under the circumstances and attributable to Mystic 7.

The fact which we find most persuasive, however, is that in 18200/18200-A the Company had conceded the need for a similar revenue adjustment and had itself proposed the figure adopted by the Department in that case.[14] In light of the Department's substantial additions to the rate base and expense figures, we cannot say that it was erroneous for the Department to make some corresponding revenue adjustment in 18515. See *West Keansburg Water Co.*, 83 P.U.R. 3d 423, 427-438 (N.J. Bd. of Pub. Utils. Comm'rs 1970).[15]

[14] Since this factor in all probability will not be present in future cases, we give notice to the Department that if this issue should arise again, a similar adjustment may necessitate even closer judicial scrutiny.

[15] It can be argued that the Department erred in failing to articulate fully in its written opinion the reasoning underlying the revenue adjustment. See G.L. c. 30A, § 11(8). We find the Department's stated reasons to be scanty indeed, but conclude that a fuller statement of the Department's reasoning should be excused under the special circumstances presented here. The Department originally made an out-of-period base revenue adjustment in 18200/18200-A because Boston Edison had conceded the need for such an adjustment. In 18515, the Department merely followed its own precedent set in 18200/18200-A. The Company clearly knew the reasons for the adjustment — both from the decision in the earlier case and from the controversy which the proposed revenue adjustment caused in the proceedings before the Department in 18515.

The Company next challenges the amount of the adjustment. The adjustment proposed by the Company in 18200/18200-A was $6,379,000 — 100% of Boston Edison's projected increase in base revenues from 1974 to 1975. In 18515, the interveners again proposed an adjustment equal to 100% of the projected revenue increase; their proposed adjustment was $16.7 million. The Department reasoned that — unlike in 18200/18200-A, in which Mystic 7 was not on line during any part of the test year — it would not be fair to add the entire projected increase to test-year revenues, since some of those revenues would be attributable not to Mystic 7, but to the remainder of the rate base, calculated according to the usual year-average method. The Department therefore determined that "[a] reasonable way to adjust revenues to mesh with the Mystic 7 increase in rate base is to attribute the expected revenue additions to Mystic 7 in the same proportion that the Mystic 7 test year additions to rate base (about $145 million) bear to total test year additions to rate base (about $216 million). The result of this is to add some $11.2 million to test year revenues."[16] The adjustment made by the Department represented 67.1% of the projected revenue increase — as opposed to the 100% adjustment urged by the interveners and 0% urged by Boston Edison.

The Company argues that it is unfair to include a full year's revenue increase attributable to Mystic 7 without

[16] $\frac{\$145 \text{ Million}}{\$216 \text{ million}} = 67.1\%$; 67.1% of $16.7 million = $11.2 million.

having the data also reflect a full year's expenses attributable to that plant. However, as the Company's treasurer noted in 18200, the three plants Mystic 7 replaced — Mystics 1, 2 and 3 — operated until June, 1975, and the operation expenses attributable to these units were replaced by equivalent expenses associated with Mystic 7. The unadjusted test-year data included six months' expenses for Mystics 1, 2 and 3 and six months' expenses for Mystic 7. In effect, therefore, the Department's decision in 18515 reflects a full year of Mystic 7's expenses. The Company itself asserted this equivalency in 18200.

The Company argued for the first time on appeal that another reasonable way to calculate the adjustment would have been to attribute the projected growth in 1976 retail revenues to the total amount of plant in service, not just to the Company's net additions during the test year. This method would have resulted in a revenue adjustment of only $2,505,000.[17] The Company was free to suggest this alternative below, but it never did so. Despite its concessions in 18200/18200-A, and although the interveners pressed for an identical method of adjustment in 18515, the Company failed to present an alternative formula to the Department, choosing to argue instead that no revenue adjustment at all should be necessary. The proposal urged by the Company on appeal was not before the Department, and, given the unusual circumstances in this case, we cannot say that the Department erred in choosing a higher figure that was supported by reason and by the record.

Boston Edison's final argument with regard to the revenue adjustment is that it partially deprived the Company of the opportunity to use its normal growth in revenues to off-

[17] The investment in Mystic 7 ($145,000,000) divided by total net plant in service ($960,412,000) equals 15%. Fifteen per cent of the projected revenue increase ($16,700,000) equals $2,505,000.

set the effects of attrition. Attrition is "the tendency of the rate of return to diminish in a period of comparatively high construction costs." *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, 331 Mass. 604, 622 (1954). In 1973, 1974, 1975 and 1976, the Company's actual rate of return has been lower than that allowed by the Department, and we have held that the Department has a responsibility to take evidence of attrition into account, by some method, in order "to arrive at rates which afford the Company the opportunity to earn a 'fair and reasonable return on honestly and prudently invested capital.'" *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, Mass. , — (1976),[s] quoting from *Boston Gas Co.* v. *Department of Pub. Utils.*, 367 Mass. 92, 97 (1975). The Department took attrition into consideration in this case by affording year-end rate base treatment to Mystic 7. It was entitled to conclude that this would be a sufficient remedy, and there is nothing in the record to suggest a conclusion to the contrary.

2. *Estimated increase in property taxes.* In its proposed cost-of-service calculation, Boston Edison included adjustments to reflect the projected increase in 1976 property tax rates for Boston and for various other municipalities in which the Company's property is located. The Department denied these adjustments, and its sole rationale was that "[i]t is proper to annualize a known increase in property taxes, but not an estimated one." This reasoning is inconsistent with the Department's own precedents and also with the decisions of this court. See *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, 360 Mass. 443, 481-482 (1971); *Boston Gas Co.*, D.P.U. No. 17885-A at 3 (Mass. Dep't of Pub. Utils., May 7, 1974); *Western Mass. Elec. Co.*, D.P.U. No. 17604 at 12 (Mass. Dep't of Pub. Utils., May 1,

[s] Mass. Adv. Sh. (1976) 2246, 2253-54.

1974). These cases show that the Department has long followed a policy of adjusting test-year property taxes to reflect known post-test-year increases. The Department has also permitted adjustments reflecting estimated increases when the record shows that the estimate is likely to be correct, or in any event when the estimate appears to be reasonable.

The record before the Department in 18515 contained a reasoned estimate of the 1976 Boston property tax increase. But moreover, the Kelmon affidavit, included in the record on appeal, now shows the actual amount of that increase. It shows that $6,619,000 in increased property taxes is allocable to Boston Edison's retail electric operations,[18] and we have previously ordered interim relief for the Company in that amount. The interim order will become final when judgment is entered on these consolidated appeals in the county court.

There was no error, however, in the Department's rejection of an adjustment purporting to estimate property tax increases in municipalities other than Boston. The Department could conclude that the record in 18515 did not permit a reasonable estimate of those increases to be made, and the record on appeal does not contain further information on this issue. The Company's own prior rate proceedings before the Department show that, when a reasonable projection is not made, estimated increases may be disallowed. *Boston Edison Co.*, 6 P.U.R.4th 77, 80 (Mass. Dep't of Pub. Utils. 1974).

3. *Refueling costs.* Periodically, Boston Edison must shut down its nuclear power station for a number of weeks

[18] Boston Edison also sells electricity at wholesale, and it sells steam to be used for heating. Part of the tax increase is borne by these customers, who are not affected by this decision.

in order to change the nuclear fuel and make repairs that cannot be made with the plant in operation. No such "refueling outage" occurred during the test year, but the Company nevertheless added $4,000,000 to its test-year expense figures on the theory that, ideally, an outage should occur every twelve months during the period in which new rates are in effect. The Department disallowed part of the adjustment, noting in its decision that the Company's actual practice has been to schedule an outage only about once every sixteen months. This schedule was projected to continue in the future. Although the Company hopes to adopt a twelve-month schedule eventually, it did not show when this is likely to happen. The Department allowed a $3,100,000 adjustment, the annual cost of a refueling outage that occurs only about every sixteen months. There was no error.

The Company mentions two additional arguments in passing, contending that the Department miscalculated in reducing the Company's proposed refueling outage adjustment. There is no merit in either argument. To allow an addition $800,000 — as the Company first suggests — would be to attribute to the test-year cost of service a maintenance expense for which Boston Edison had already received reimbursement under the terms of a warranty settlement reached with the General Electric Company. The second argument is that the Company should be entitled to relief because it inadvertently understated the cost of a refueling outage by $200,000. This argument comes too late; the Department's decision was fully supported by cost-of-service figures put in the record by Boston Edison.

4. *"AFUDC not normalized."* Boston Edison raises three issues in connection with its proposed "adjustment for AFUDC not normalized." The Company's adjustment would have increased the cost-of-service figure to reflect

fully the income taxes paid during the year. We discuss each of the issues separately against a background that is necessary as a preliminary matter. We conclude that this adjustment was erroneously disallowed by the Department.

a. *"AFUDC."* The Allowance for Funds Used During Construction (AFUDC) is a standard account used by utilities and regulators to identify, for ratemaking purposes, the capital costs associated with a particular construction project. See Uniform System of Accounts for Electric Companies par. 432 (Mass. D.P.U. rev. ed. 1961). Its function is to compensate the utility for capital costs incurred during construction — that is, incurred before the cost of the completed project has been added to the rate base. As the Company incurs capital costs relevant to this account, it also "accrues AFUDC" — that is, it becomes eligible to have these costs reflected in the rates at some time in the future. The Department does not allow the utility to recover AFUDC accruals at the time the capital expense is incurred. Instead, the Department requires the utility to add the total obligation thus accrued to the cost of the new plant when it is eventually added to the rate base. The utility then recovers the amount of the AFUDC accruals gradually over the service life of the plant in the form of depreciation recognized as an expense incurred in providing electrical service. See generally Litke, Allowance for Funds Used During Construction, Pub. Utils. Fortnightly at 19 (September 28, 1972).

The Department defines AFUDC as "the net cost for the period of construction of borrowed funds used for construction purposes and a reasonable rate upon other funds when so used." Uniform System of Accounts for Electric Companies par. 432 (Mass. D.P.U. rev. ed. 1961). As this definition shows, AFUDC comprises two distinct parts: (1) a debt portion, which represents the interest expense on

borrowed money, and (2) a so called "equity" portion, which represents an opportunity cost incurred when the utility finances construction with its own internally-generated funds, foregoing a more lucrative investment in something else. See Litke, *supra*. The equity portion is an imputed cost. It does not reflect an out-of-pocket expense, but the Department has consistently treated it as an element of the cost of service.[19] See, e.g., *Boston Edison Co.*, 6 P.U.R.4th 77, 79 (1974).

When the finished plant goes into operation, the Company's cost of service reflects two distinguishable kinds of depreciation. First there is the kind of depreciation that returns the utility's investment in its physical plant and which is tax deductible. See I.R.C. § 167. Then there is AFUDC, a kind of "depreciation" that repays capital costs incurred in building the plant. AFUDC receipts reflected in the rates are *not* tax deductible. Therefore, in addition to bearing the capital cost of new construction, the ratepayers must pay the tax on income attributable to AFUDC. The determination of when the ratepayers should do so adds another aspect to the issues raised by Boston Edison.

b. *"Normalization."* Should the utility's rates recognize the Company's AFUDC tax liability in the year in

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[19] The rationale underlying the accrual of equity AFUDC is that "the cost of capital is not measured by interest payments alone, but rather by all the economic costs of the entire financing arrangement. A part of these costs is borne by the equity investors who are willing to assume risks and without which financing by debt capital would not be possible." Litke, *supra* at 19. If the Company had its plant built by an independent contractor who turned the finished plant over to the utility on a "turn key" basis, the price to the utility would include a premium for the contractor's having put his own capital at risk. The equity portion of AFUDC similarly compensates the utility for putting internally generated funds at risk when it builds the plant itself.

which ratepayers become obligated to pay AFUDC or later, in the year in which the Company actually pays the tax? The former method is called "normalization," and accountants do not agree on whether normalization is advantageous to the ratepayers in the long run. It is certainly advantageous to the utilities. See generally 1 A.J.G. Priest, Principles of Public Utility Regulation 124-136 (1969).

When a utility incurs a construction-related capital cost and accrues AFUDC on its books, that transaction has no present income tax consequences, only tax consequences in later years. Nevertheless, when AFUDC is accrued, a determinable, future tax liability is created. Taxes are said to be "normalized" when ratepayers are charged not the actual income taxes paid during the test year, but a larger, hypothetical figure. This figure represents the taxes actually paid plus an amount equal to the future tax liability on AFUDC accrued during the test year. In other words, the ratepayers pay the tax in advance. According to one commentator, normalization is popular with utilities since it requires ratepayers to pay a tax allowance which, instead of being transmitted forthwith to the United States Treasury, is available to the Company as a fund of cost-free capital until the taxes associated with AFUDC become due in later years.[20] See J.C. Bonbright, Principles of Public Utility Rates 220 (1961) (discussing normalization in connection with accelerated depreciation). For the purposes of this appeal, the importance of normalization is this: if AFUDC has been normalized, then the ratepayers have already paid the taxes; if AFUDC has not been normalized, then the rates must provide sufficient revenues to

[20] It should be pointed out that the deferred tax reserves generated by normalization are subtracted from the rate base. Therefore, although the Company obtains the use of this money without incurring any additional cost, the Company is not entitled to earn a return on the fund at the expense of the ratepayers.

pay the taxes as they become due — in addition to paying back the capital costs incurred during construction.

c. *The three components of Boston Edison's "allowance for AFUDC not normalized."* We now turn to the issues raised by Boston Edison's appeal in 18515.

1) *Taxes, on AFUDC accrued from 1960 to 1973, which are now due and have not been normalized.* Boston Edison began accruing AFUDC in 1960. It did not begin normalizing taxes on the debt portion until the Department allowed it to do so in D.P.U. 17795-A, a rate proceeding employing a 1973 test year. *Boston Edison Co.*, 6 P.U.R.4th 77, 79 (1974). The Department has never allowed Boston Edison to normalize taxes on the equity portion of AFUDC.

Projects that were under construction between 1960 and 1973 are now in service. Boston Edison customers, therefore, are now paying AFUDC each year, and the Company is incurring a corresponding income tax expense each year. There is no deferred-tax reserve to meet this expense, because this AFUDC has never been normalized. In 18515, the Department disallowed an adjustment that would have recognized the tax expense in calculating the test-year cost of service. Its decision was erroneous as matter of law.

The Department reasoned that "it is an inordinate burden on current ratepayers to require them to support present normalization as well as pre-normalization costs [that is, present taxes]. Therefore, notwithstanding the fact that the tax liability for pre-normalization AFUDC may in fact have arrived, we do not think it should be charged to the Company's present customers . . . ." This reasoning misses the mark. Tax expense is clearly an element of the Company's cost of service, whether or not the Company accumulates a deferred-tax reserve. Normalization determines only when the tax will be reflected in the rates. It does not relieve current ratepayers of an

expense that is properly part of the cost of service. This is so with regard to taxes on both the debt and the equity portions of AFUDC.

2) *Taxes, on AFUDC accrued on Mystic 7 in 1974-1975, that have not been normalized.* Under the Department's policies, a utility may accrue AFUDC whenever it incurs capital costs associated with a particular construction project and may do so until the project is completed. Mystic 7 went into operation in June, 1975. The Company incurred construction related capital costs up until that time. It was therefore entitled to accrue, and did accrue, AFUDC in the same amount.

None of the AFUDC accrued on Mystic 7 in 1974 and the first six months of 1975 has been normalized. The Department has never allowed equity AFUDC associated with *any* project to be normalized. Moreover, although the Department's rule now is to permit normalization of debt AFUDC, it made exceptions with regard to debt AFUDC accrued on Mystic 7 during 1974[21] and the first six months of 1975[22] The Department's reasons for making those exceptions are not germane to this appeal. What is important is that the taxes have not been paid previously, and they are now falling due, a bit each year. The Company proposed an adjustment that would have included in the cost of service taxes on AFUDC payable during the test year. For the reasons discussed in part 1 of this discussion, *supra,* the disallowance of this adjustment was error of law.

The Attorney General argues that to allow this adjustment would be to allow double recovery in this case, since the full original cost of Mystic 7 was included in the rate

[21] This ruling came in 18200/18200-A, and the Department's decision to refuse normalization has not been appealed.

[22] This ruling came in 18515, and, again, the refusal is not before us.

base both in 18200/18200-A and in 18515. There is no possibility of double recovery here. Boston Edison actually accrued AFUDC in 1974 and 1975, and there can be no denying it. When the Company instituted rate proceedings in 18200/18200-A, the Department used 1974 as the test year and attributed Mystic 7 to the test-year rate base in order to set fair rates for the future. Those rates took effect on October 1, 1975. Therefore, the ratepayers have been paying a return on Mystic 7 as an item in the rate base since October, 1975. The Company accrued AFUDC only up until June, 1975. There is no overlapping and therefore no possibility of double recovery.

3) *Taxes on the equity portion of AFUDC — other than that associated with Mystic 7 — accrued from 1973 to 1975.* Taxes on the equity portion of AFUDC have never been normalized. The construction projects on which AFUDC was accrued are now in operation and providing electrical services to the ratepayers. The third component of Boston Edison's adjustment for "AFUDC not normalized" would have generated revenues to meet the taxes on the equity portion of all AFUDC — other than that relating to Mystic 7 — accrued since 1973, but not normalized. The preceding discussion makes it clear that these taxes are properly includable in the test-year cost of service and that the Department erred in refusing the adjustment.

d. *The effect of mootness on this determination.* Taken together, the three components of the adjustment for "AFUDC not normalized" would have increased Boston Edison's test-year income tax expense by $2,360,000. Since we take notice that new rates have become effective since this appeal was filed, the Company may not now collect this amount retroactively in the form of a rate increase based on 1975 as the test year. The Company will never-

theless recapture most of its capital costs incurred during construction, since the Company will recover depreciation on the same AFUDC accruals here in issue for each year of the associated plant's useful life. In the future, the depreciation recovered by the Company will not be decreased by income tax expense.

5. *Income tax: Calculation of interest expense associated with short-term debt.* In order to calculate Boston Edison's test-year income tax expense for ratemaking purposes, the Department had to determine the amount of the Company's deduction for interest associated with short-term credit. Relying on evidence offered by the interveners, the Department calculated the interest on $106,000,000, the year-average balance of short-term debt during the test year. The Company objects that the amount of interest thus derived should have been reduced by two further adjustments which the Department refused to make. It argues that the Department erroneously failed to adjust the interest calculation by $4,903,000 to reflect a saving in short-term interest which the Company *would* have realized (1) if it had issued certain secured notes at the beginning of the test year rather than at the end, as actually happened, and (2) if it had also issued certain preference stock at the beginning of the year rather than toward the end of the first quarter. There was no error. It does not appear that the year-average figure required "adjustment for abnormal conditions." *Michigan Wis. Pipe Line Co.* v. *Federal Power Comm'n.* 263 F.2d 553, 556 (6th Cir. 1959). Cf. *United Gas Pub. Serv. Co.* v. *Texas,* 303 U.S. 123, 145 (1938). On the contrary, the Department could find that to use the Company's average short-term debt in calculating its test-year income taxes was an appropriate way to reflect the Company's usual short-term borrowing experience. The Company had issued secured notes and preference

stock during the test year in order to refinance short-term debt, but the Department reasoned that it was incorrect to assume from this that the Company would enjoy a decrease in the level of short-term debt over the period in which new rates would be in force. The net effect of the Company's proposed adjustments would have been to assume a normal short-term debt level of only $72,000,000. The Department found, however, that "[t]hat figure is not a fair reflection of either the past or the future." Substantial evidence supported the figure chosen by the Department, and we cannot say that there was error of law.

6. *Annualized depreciation on test-year additions to plant in service.* The Department declined to adjust the test-year expense figures to allow the Company a full year's depreciation on additions — other than Mystic 7[23] — to plant in service made during the test year. The amount of the proposed adjustment was $735,000. The Department has determined to calculate the rate base on a year-average basis, and the Department could reasonably conclude that to allow the Company to annualize depreciation on plant not in existence at the beginning of the test year would have been inconsistent with that approach. See *Fall River Gas Co.,* D.P.U. No. 17708 at 9 (Mass. Dep't of Pub. Utils., Oct. 11, 1973). Cf. *Utah Tel. Co.,* 81 P.U.R.3d 156, 160-161 (Utah Pub. Serv. Comm'n 1969). See generally *Kansas Power & Light Co.,* 8 P.U.R.4th 337, 362-363 (Kan. State Corp. Comm'n in 1975).

7. *Depreciation on easements.* As of December 31, 1975, Boston Edison had spent about $3,990,000 in acquiring ease-

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[23] The Department allowed the Company to annualize its depreciation expense associated with Mystic 7. This adjustment has been discussed previously, *supra* at (Mass. Adv. Sh. [1978] at), in connection with the Mystic 7 revenue adjustment.

ments in order to construct transmission and distribution lines. In 18515, the Company claimed depreciation on these easements, at the rate of 3%, as part of its cost of service. The Department rejected this $120,000 adjustment, reasoning that easements are interests in land which — unlike the power lines built on them — do not have a limited useful life. See *Western Mass. Elec. Co.*, D.P.U. No. 18252 at 12 (Mass. Dep't of Pub. Utils., Dec. 15, 1975). There was no error. The Department added the full original cost of the easements to the Company's rate base; that is, it did not subtract depreciation from the original cost as it would for other items on which the Company is entitled to a return. The result might well be different if the easements themselves were limited to a term of years, but that is not the Company's objection in this case.

8. *Lobbying and political expenses.* The Department disallowed about $43,000 in political contributions and lobbying expenses during the test year. The Company contends that this disallowance was erroneous. Robinson, on his part, claims error in the Department's failure to eliminate a great deal more of the Company's cost-of-service expenses, which he alleges were attributable to lobbying. We consider each appeal separately.

a. *Boston Edison's appeal.* Of the expenses disallowed, $10,000 represented a contribution to a group called Citizens for Economy in Government. That organization is no longer in existence, and for this reason alone the Department reduced the Company's cost-of-service figure by $10,000. Boston Edison maintains that this adjustment was arbitrary and capricious; the Department concedes the point in its brief. The Department's decision was erroneous as to this ruling.

Another $10,000 represented a contribution to the Massachusetts Taxpayers Foundation, a registered lobbyist whose principal activities, the record shows, are directed toward proposing and influencing legislation and executive action. Boston Edison concedes that the recipient of its contribution is a lobbying organization, but contends that the Department erred in disallowing this expense because no evidence was offered to show that the Company's contribution was in fact used for lobbying. This argument has no merit. It is the Company's burden to show that each item of expense is properly part of the cost of service, and lobbying expenses are widely held to be excludable from a utility's operating expenses for ratemaking purposes. See, e.g., *Pacific Tel. & Tel. Co.* v. *Public Utils. Comm'n*, 62 Cal. 2d 634, 669-670 (1965); *Illinois Bell Tel. Co.* v. *Illinois Commerce Comm'n*, 55 Ill. 2d 461, 479-480 (1973); *Central Me. Power Co.*, 15 P.U.R.4th 455, 475-476 (Me. Pub. Utils. Comm'n 1976).

The Company also objects to the disallowance of $22,658 in lobbying expenses in addition to the two contributions discussed above. There was no error as to this adjustment. The record in 18515 contains two reports detailing certain of Boston Edison's lobbying expenditures during the test year. A disclosure statement originally filed with the Federal Power Commission reported that the Company had incurred $75,103 in lobbying expenses to be borne by the stockholders. A second statement, filed with the Department, reported only $52,444 for such activities. The discrepancy is not explained in the record, and the Department chose to believe the higher figure. The Company offers an explanation for the first time on appeal; it is not persuasive, and, in any event, it comes too late.

b. *Robinson's appeal.* Robinson argues that three further items of expense allowed by the Department should have been disallowed as lobbying expenses.

During the test year, Boston Edison paid $109,261 to the Massachusetts Electric and Gas Association (MEGA), an organization that acts as a lobbyist, but also engages in a number of other activities on behalf of the Company. Boston Edison reported that only $25,792 of this amount was paid for lobbying assistance; the Department accepted this allocation, after cross-examination, and allowed the rest to be reflected in the new rates. There is substantial evidence in the record to support the Department's determination.

Robinson further challenges the Department's refusal to disallow the salaries of certain Boston Edison employees who were paid by the Company to lobby on its behalf in addition to performing other public relations functions for the Company. Boston Edison had paid several "vice presidents for corporate relations" a total of $183,741 in salaries during the test year. The part of this expense which the Company reported as an excludable lobbying expense was $17,194. The Department accepted these figures despite the Company's inability to support the allocation on cross-examination. We conclude that there was no substantial evidence to support the allocation and that it was error of law for the Department to allow these expenses, absent proof that they are properly part of the cost of service.

Substantial evidence means "such evidence as a reasonable mind might accept as adequate to support a conclusion." G.L. c. 30A, § 1 (6). *New England Tel. & Tel. Co.* v. *Department of Pub. Utils.*, Mass. , (1977).[t] The Company's method of allocating its employees' time between lobbying and nonlobbying activities appears to have been arbitrary. Boston Edison's witness testified that some of the time billed to the ratepayers was counted as 100% lobbying time, some as 15% lobbying, some as 12% lobbying, and a considerable amount as 0% lobbying, including all time spent in the office. The witness was unable to explain how one employee could have caused a total of 400 hours spent lobbying to be allocated at 0%. Moreover, he admitted on cross-examination that he had no rule for sorting out these options and no rationale that would support the use of this or any other percentage method of allocation. The Department accepted the allocation nevertheless. It is true, of course, that these employees perform services for the Company other than lobbying, and that the expenses associated with these services may be includable in the cost of service. The record does not suggest an alternative allocation, however. The Company did not prove that these expenses should be borne by its customers, and for this reason the Department's decision to allow $166,547 in contested salaries as an element of the cost of service was erroneous.[24]

[t] Mass. Adv. Sh. (1977) 1195, 1202.

The final item challenged by Robinson concerns time spent by Boston Edison employees learning about the November, 1976, public power referendum. The record does not indicate the cost of this activity. Moreover, the Department determined after careful consideration that this expense could fairly be classified as educational rather than political. There was no error.

9. *Alleged miscalculation of the amount of property taxes to be eliminated from the cost of service.* In accordance with its decision to exclude plant held for future use from the rate base,[25] the Department adjusted the Company's test-year property tax expense by subtracting $195,000 in property taxes associated with that plant. The

[24] $183,741 (total salaries) minus $17,194 (amount previously disallowed) equals $166,547.

[25] The rate base exclusion is discussed at *supra* (Mass. Adv. Sh. [1978] at).

Company contends that only $35,000 should have been subtracted. The Department's decision is fully supported by the record. The Company does not argue this point vigorously, and we are persuaded by the Attorney General's demonstration that the rates already reflect the additional $160,0000 sought here.

C. Ground Rules Established by the Department in 18515 for Boston Edison's Next Rate Case.

In 18515, the Department ordered "that the Company affirmatively demonstrate, in any future rate case, that it has moved to improve the efficiency of its operations and the productivity of all its employees, both management and nonmanagement. Such a demonstration, at a minimum, would include a showing that employees' wages, salaries, and numbers are not excessive and that the construction program is the least that will provide necessary and adequate service." The Company maintains that it is beyond the power of the Department to impose such a requirement and that, in any event, this requirement is unfair on its face. There was no error. Under G.L. c. 164, the Department possesses broad investigative and supervisory authority over electric utilities and may properly inquire into these aspects of their operations in furtherance of its mandate to "keep itself informed as to . . . the manner in which they are conducted with reference to the . . . convenience of the public." G.L. c. 164, § 76.[26] It has long

[26] See also G. L. c. 164, § 76 (general supervisory and investigative powers); *id.* § 76A (supervision of utility's dealings with affiliates); *id.* § 85 (power to examine company records); *id.* § 93 (power to investigate and adjust prices to order improvement in service); *id.* § 94 (authority to conduct investigation as to propriety of rate increase request). See also *Cambridge Elec. Light Co.* v. *Department of Pub. Utils.*, 363 Mass. 474, 494 & n.31 (1973).

been held that "the State, through the regulary constituted authorities, has taken complete control of these corporations so far as is necessary to prevent the abuses of monopoly." *Weld* v. *Gas & Elec. Light Comm'rs*, 197 Mass. 556, 558 (1908). The efficiency of Boston Edison and the magnitude of its construction program are matters of legitimate public interest, and the Company will not be heard to protest at this point that the requirement imposed by the Department constitutes an undue constraint on managerial prerogatives. See *Consumers Power Co.*, 14 P.U.R.4th 1, 14-21 (Mich. Pub. Serv. Comm'n 1976). If the Department administers its requirement unfairly, that issue will, of course, be open to review at the appropriate time.

D. Intervention in the Proceedings Below.

The Department permitted Robinson, a mathematician, and one Torgeir Kvale (Kvale), an engineer, to intervene in 18515. Boston Edison maintains that the interests of these individuals were already represented by the Massachusetts Consumers Council, which had intervened "for and in behalf of the people of the commonwealth." G.L. c. 6, § 115, inserted by St. 1963, c. 773, § 2. The Company argues, therefore, that the Department erred in permitting Robinson and Kvale to intervene and also in refusing to limit their participation to filing a written statement of position. The Administrative Procedure Act grants the Department broad discretion with regard to interveners.[27] However, that dis-

[27] General Laws c. 30A, § 10, inserted by St. 1954, c. 681, § 1, in effect during the departmental proceeding, provided that: "Unless otherwise provided by any law, agencies may . . . (4) allow any person showing that he may be substantially and specifically affected by the proceeding to intervene as a party in the whole or any portion of the proceeding, and allow any other interested per-

cretion is not unlimited. See *Newton* v. *Department of Pub. Utils.*, 339 Mass. 535, 543 n.1 (1959).

Robinson and Kvale both had presented evidence of expertise in ratemaking issues. Both were "interested persons" within the meaning of the statute, and the Department clearly had discretion to allow these individuals to intervene. The more serious question concerns the extent to which Robinson was permitted to participate.[28]

The Department limited Kvale's intervention to making a statement, through an attorney, on one of the several issues about which he had expressed concern. This limited intervention clearly falls within the Department's discretion to allow interested persons "to participate by presentation of argument orally or in writing, or for any other limited purpose, as the agency may order." G.L. c. 30A, § 10, cl. (4), as in effect prior to St. 1977, c. 965. Robinson's participation was an entirely different matter. Of the 4,700 or so pages of transcript in 18515, over 900 pages were taken up by Robinson's cross-examination of witnesses. Another 250 were taken up with the presentation of and cross-examination concerning his direct evidence. We emphasize that he was representing only himself; the Department's regulations prohibit non-lawyers from representing the interests of others.

Because of the extent of Robinson's participation, his intervention presents a close question. We cannot agree

son to participate by presentation of argument orally or in writing, or for any other limited purpose, as the agency may order." See St. 1977, c. 965, which struck out § 10 and inserted new provisions governing adjudicatory proceedings.

[28] We do not reach the question whether an individual ratepayer can be a person "substantially and specifically affected by the proceeding" within the meaning of G.L. c. 30A, § 10, cl. (4).

that the Department was obliged to limit him to the filing of a written statement of position. In most circumstances, Robinson's role would be of doubtful validity. Given the difficulty of the case before it, we cannot say that the Department erred in seeking an intervener's extensive help in fully elucidating the issues. The Department operates under a statutory deadline when conducting rate proceedings, G.L. c. 25, § 18, inserted by St. 1975, c. 684, § 90, and its decision that intervention will expedite the case is entitled to great weight. Our decision in *Save the Bay, Inc.* v. *Department of Pub. Utils.*, 366 Mass. 667 (1975), relied on by the Company, is not to the contrary. We add that similarly extensive participation by an intervener in any future case should be permitted by the Department only if careful consideration discloses special circumstances in justification.

E. Rate Structure in 18200/18200-A.

Once having determined what increase was necessary to meet Boston Edison's revenue deficiency in 18200/18200-A, the Department considered various proposals offered by the Company and the interveners for allocating the increase among the Company's customers. The Department accepted the basic principle underlying the Company's proposed rate structure and fashioned experimental rates allocating the rate increase according to the relative contribution of customer classes to the growth in peak-load demand for electricity.[29] However, the Department modified the

[29] General Motors contends that the Department abused its discretion by declining to use as its sole criterion the cost of service to each class. There is no merit to this argument. *Trustees of Clark Univ.* v. *Department of Pub. Utils.*, Mass. , (1977) (Mass. Adv. Sh. [1977] 698, 704). See generally, Cudahy & Malko, Electric Peak-Load Pricing: Madison Gas and Beyond, 1976 Wis. L. Rev. 47.

Company's proposal by exempting the first 384 KWH of monthly residential usage from the rate increase, on the ground that this segment of residential usage had not contributed significantly to the growth in peak-load demand. Boston Edison and General Motors challenge this exemption on appeal. They argue that the Department lacked statutory authority to make any exemption at all and that the exemption made is not supported by substantial evidence. In addition, General Motors maintains that the exemption violates its rights under art. 10 of the Declaration of Rights of the Massachusetts Constitution. There was no error.

Under the provisions of G.L. c. 164, § 94, most recently amended by St. 1973, c. 816, §§ 2, 3, the Legislature has given the Department regulatory authority over "all rates, prices and charges" to be collected in the Commonwealth for the sale of electricity. As we have previously noted, this statute gives the Department "jurisdiction of the *entire rate structure*" in electric rate cases. *Boston Real Estate Bd.* v. *Department of Pub. Utils.*, 334 Mass. 477, 485 (1956) (emphasis in the original). The statute contains no exception, but the appellants now submit that the 384 KWH exemption created in 18200/18200-A exceeded the Department's authority. There is no merit to this contention. What Boston Edison and General Motors object to is "different treatment for different classes of customers, reasonably classified," which we have long held to be within the statutory powers of the Department. *Id.* at 495.

This is not a case of irrational discrimination. See *Lefkowitz* v. *Public Serv. Comm'n*, 40 N.Y.2d 1047, 1048 (1976). Cf. *New England Tel & Tel. Co.* v. *Department of Pub. Utils.*, Mass. , - (1976).[u] The Department de-

[u] Mass. Adv. Sh. (1976) 2246, 2272-2273.

termined that Boston Edison's need for rate relief stemmed from its construction program; that new construction had been necessitated by the growth in peak-load demand; and that, since average residential usage had not contributed significantly to the growth in peak-load demand, residential users should not participate fully in the rate increase. The Department could reasonably conclude, on the record before it, that the challenged exemption would encourage energy conservation in the public interest, both by residential users below the 384 KWH level and by Boston Edison's largest industrial customers. For this reason, the Department's determination must be affirmed if supported by the record. See *Apartment House Council of Metropolitan Wash., Inc.* v. *Public Serv. Comm'n of the Dist. of Columbia*, 332 A.2d 53, 58 (D.C. Ct. App. 1975).

Evidence given by a Boston Edison witness clearly indicates that the Company's increased costs resulted ultimately from the growth in peak-load demand. It also indicates that the "general service class" of commercial and industrial users was primarily responsible for that growth and that residential customers who kept their consumption below 384 KWH monthly contributed least to the need for new plant construction. The 384 KWH figure represents the average residential usage in recent years, and the record shows that this figure has remained relatively steady while commercial and industrial demands have increased. We conclude that there is substantial evidence to support the Department's decision to exempt certain customers.

General Motors points out that the rate structure in 18200/18200-A increases Boston Edison's margin of profit on power sold to industrial customers in order to offset the relatively low margin of profit on power sold to residential ratepayers. It asserts that this price differential amounts to confiscation of its property in violation of the Massachu-

setts Constitution. This position finds no support in ou. cases, and there is considerable judicial precedent to the contrary in other jurisdictions. See *Norfolk & W. Ry.* v. *Conley,* 236 U.S. 605, 608-609 (1915); *Minneapolis Gas Co.* v. *Federal Power Comm'n,* 278 F.2d 870, 871 (D.C. Cir. 1960); *Allied Chem. Corp.* v. *Georgia Power Co.,* 236 Ga. 548, 553-554 (1976); *Petrolane Gas Serv., Inc.* v. *Idaho Pub. Utils. Comm'n,* 85 Idaho 593, 602 (1963); *Carpenter* v. *Pennsylvania Pub. Util. Comm'n,* 141 Pa. Super. 447, 450 (1940). We decline to adopt General Motors's argument as the law of the Commonwealth.

V. Conclusion.

Boston Edison's consolidated appeals raise one additional issue, the Company's claim that it is entitled to damages from the Commonwealth. The Company complains that the Department took an inordinate length of time to implement rate increases in 18200/18200-A and 18515 and that the Commonwealth, therefore, should compensate the Company by the amount of its revenue deficiency in the interim. The Company raises this issue by appeal, and the Attorney General has filed motions to dismiss so much of the appeals as seeks damages from the Commonwealth. Those motions are allowed. Boston Edison should address these arguments to the Legislature. The Department met its statutory deadlines in rate proceedings which it characterized as "perhaps the most complex ever to come before the Department." The record does not support the Company's assertion that the delay was inordinate or intentional.

Judgment is to be entered in the county court affirming the Department's decision in 18200/18200-A. Judgment similarly is to be entered in 18515 affirming the decision in part and reversing as to those subsidiary determinations of

the Department found to be erroneous as matter of law, *supra.* These determinations are: (1) the disallowance of an expense adjustment for an estimated Boston property tax increase; (2) the disallowance of an expense adjustment for taxes associated with "AFUDC not normalized"; (3) the disallowance of a contribution made to a citizens' group; and (4) the allowance of an allocated portion of salaries paid to Boston Edison employees engaged, inter alia, in political lobbying, where substantial evidence did not support the allocation. The interlocutory order granting $6,619,000 in interim rate relief is affirmed. If relief could be granted representing the net amount of the several adjustments allowed and disallowed, the Company would be entitled to an amount greater than the $6,619,000 in interim relief already granted. However, it is clear that such additional relief may not be granted, for the reason, as we have stated *supra,* that the more recent decision in 19300 supersedes that in 18515. Tht law is clear that Boston Edison may not receive additional relief retroactively. See *Arizona Grocery Co.* v. *Atchison, Topeka & Santa Fe Ry.,* 284 U.S. 370, 386 (1932); *New England Tel. & Tel. Co.* v. *Public Utils. Comm'n,* R.I. , 1976.[v] The cases are remanded to the county court for the entry of judgment.

So ordered.

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[v] 358 A.2d 1, 20 (1976).

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May 1, 1978

HONORABLE EDWARD F. HENNESSEY
Chief Justice
Supreme Judicial Court
Pemberton Square
Boston, Mass. 02108

Re: Boston Edison Company v. Department of Public Utilities — No. SJC 832

Dear Mr. Chief Justice:

Boston Edison Company hereby petitions the Supreme Judicial Court for rehearing of its decision dated April 19, 1978, in the above-entitled case. It does so because the deviations from prior authority, the non-recognition of substantial arguments, and the apparent misunderstanding of the state of the record or of certain undisputed facts contained therein, all reflect misapprehension sufficient to warrant rehearing. The issues raised by the petition are as follows:

I. The Allowed Return of Common Equity

In upholding the Department's finding that a 13% return on Boston Edison's common equity was fair and reasonable, the Court, at p. 15 of its Opinion, accepts the Department's conclusion that such a return will *not* produce a market price for the Company's stock which is at or above book

value. Nevertheless, the Court limits its previous holding in *New England Tel. & Tel.* v. *Department of Pub. Utils.*, Mass. Adv. Sh. (1976) 2246, 2259 that "forced dilution is confiscation" to instances where new equity must be sold below book in order to sustain a utility's "normal operations." Opin. 17 In substance, the Court holds that a utility like Boston Edison which needs additional capital to fund a construction program "of limited duration and unprecedented size" does not enjoy the same protection from confiscation by dilution available to a utility which must go to the capital markets "to allow the business to continue as usual". Opin. 17

For an electric utility, construction of new plant to meet the needs of tomorrow is just as vital as maintenance of existing plant to meet the needs of today. Both are service imperatives of equal obligation for a regulated utility. In the case of a modern electric utility the construction of new generating units may require massive expenditures over long lead times. Thus, projects of "limited duration and unprecedented size" in effect constitute business as usual in this industry. Under such circumstances, the shareholders of an electric utility should be entitled to the same protection from enforced dilution which they would have if the utility were raising funds "to allow the business to continue as usual". This is particularly true where the project of "limited duration" may extend for six or more years[1] and require the repeated marketing of new equity.

Since the Court may have misapprehended the implications of its decision upon all utilities, Boston Edison respectfully requests the Court to reconsider its holding

[1] At the hearings in January, 1976, Mr. Galligan testified that construction of Pilgrim II was not then expected to be completed until the fall of 1982 — some six years later. (Tr. 232)

which forces an electric utility to choose between repeatedly issuing stock below book or abandoning the construction of additional plant necessary to meet future service needs.

II. The Scope of Judicial Review

In its decision, the Court acknowledges that to the extent that the Company *asserts* a claim of confiscation, it is entitled to an independent review as to both law and fact. Opin. 7 However, in reviewing the various cost of service and rate base adjustments, it fails to employ that standard. Instead it confines itself to a review under G.L. c. 30A, § 14(7).

In *New England Tel. & Tel.* v. *Department of Pub. Utils.*, 360 Mass. 443 at 449 (1971), the Court held that if the Company has *alleged* confiscation, it is entitled to an independent judicial review as to both law and facts. See also *Mystic Valley Gas Co.* v. *Department of Pub. Utils.*, 359 Mass. 420, 424 (1971); *Boston Gas Co.* v. *Department of Pub. Utils.*, Mass. Adv. Sh. (1975) 1865, 1869. And in *New England Tel. & Tel.* v. *Department of Pub. Utils.*, Mass. Adv. Sh. (1976) 2246, 2249, the Court stated: "So far as unconstitutional confiscation is *claimed,* the Company is entitled to an independent judicial review as to both law and fact . . ." (emphasis added).

In this case, the Court placed Boston Edison's explicit *claim* of confiscation outside the range of its traditional scrutiny. It did so by holding that the Company had failed "to establish the indicia of confiscation." Opin. 18 However, such a threshhold requirement has never been invoked in any of the aforementioned cases. Even more significant, this threshhold requirement was well satisfied here. At pages 14-19 of its original brief as well as in oral argument to the Court, Boston Edison summarized in some detail the

extensive testimony offered at the hearings which demonstrated that the rates set by the Department were confiscatory.[2] In addition, the updated financial data presented to the Court by affidavit showed that even if the rate increase allowed by the Department were annualized, the Company's return on equity *in 1976* would have been only 9.41% or some $22,349,000 *below* the return purportedly allowed by the Department. (A. 205) There could hardly be more compelling "indicia" that confiscation had actually resulted from the Department's inadequate rate order.

From the language of the decision, it appears that the Court may have misapprehended the distinction between the *allowed* return on equity and the return *actually earned*. For after finding the 13% return *allowed* by the Department to be adequate, the Court immediately concludes that the Company has therefore failed to establish the "indicia of confiscation." Opin. 18 However, it is submitted that no such conclusion can properly be drawn. Even if the *allowed* return were adequate, rates may still be confiscatory unless they also provide the Company with a reasonable opportunity to *actually earn* the return which was purportedly allowed. In fact, that is a form of confiscation which Boston Edison alleged and proved in this case.

Furthermore, the Court appears to have misapprehended the Company's position in stating that the only argument involving the merits of the Company's confiscation by adjustment claim is that "the Department arbitrarily increased the Company's test year revenues and decreased its test year expense figures". Opin. 18 While such adjustments were certainly alleged to be the partial *cause* of confiscation[3], the confiscatory *results* were instead established through the testimony and affidavits which described in detail the Company's grave financial condition. It is the latter testimony which supports the Company's claim of confiscation. However, the Court appears to have overlooked this extensive and compelling testimony in determining the standard of review which it would apply in considering the cost of service and rate base adjustments.

[2] For example, the spread between the allowed returns on equity and the returns actually earned which are shown at p. 16 of the Company's brief (see also ftnte. p. 43) is every bit as dramatic as the difference which existed in *New England Tel & Tel.* v. *Department of Pub. Utils.*, Mass. Adv. Sh. (1976) 2246, 2253.

In short, it is respectfully submitted that the standard of review invoked by the Court in this case was inconsistent with its prior precedent and improper in light of the evidence of confiscation. Accordingly, a rehearing is warranted.

III. Compensating Balances

In justifying the exclusion of compensating balances from Boston Edison's rate base, the Court relies upon a ground first asserted in the Department's brief to this Court to the effect that the short term debt to which those balances were related was never apportioned as between operating costs and capital costs. Opin. 21 However, that rationale was never offered by the Department in its decision. (See A. 105-108)[4] Accordingly, it should now come too late. *Compare,* Opin. 34-35; 38.

Assuming, however, that the failure to apportion short term debt as between capital and operating costs is indeed

[3] Improper rate base reductions as well as an inadequate rate of return were also alleged to be factors causing confiscation.

[4] In its brief to the Court, the Company adequately responded to each of the arguments which the Department had actually advanced in its decision in an attempt to justify the exclusion of compensating balances from rate base. See Co. Brief, pp. 100-111.

fatal to the inclusion of compensating balances in rate base, then under the same rationale, current ratepayers should not receive the benefit of the income tax deduction associated with that same short term debt. However, the effect of the Court's treatment of this item it so give ratepayers the *benefit* of this income tax deduction when calculating income taxes for cost of service purposes — even though it was never established whether that short term debt is used for operating or capital purposes — while relieving them of one of the *burdens* associated with those borrowings, namely the obligation to meet the cost of maintaining compensating balances. Despite the fact that this inconsistency had been specifically pointed out in the briefs (see Co. Reply Brief, pp. 53-55), it appears from the decision that the Court may have overlooked it.

Even if the Court did intend both that short term debt should be generally deductible in calculating income taxes for cost of service purposes but that compensating balances should be excluded from rate base, the Company also vigorously argued before the Department[5] and again before the Court[6] that at the bare minimum, current ratepayers should not receive the benefit of the income tax deduction created by the interest expense on the compensating balances themselves. If ratepayers are neither providing the capital which is used as compensating balances nor paying a return on it, there is no reason why they should receive the benefit of the interest deduction which results from the interest charges associated solely with that capital. Since the Court appears to have overlooked this point in its decision, Boston Edison respectfully submits that a rehearing is necessary in order to avoid an inadvertent inequity.

[5] Ex. BE-300, pp. 14-15.

[6] Co. Brief, pp. 110-111; Co. Reply Brief, pp. 56-58.

IV. The Mystic Scrubber

The Court excluded the Mystic scrubber from the Company's rate base with the summary statement that "Special circumstances may necessitate an exception to the Department's policy [of excluding retired plant from rate base] on occasion . . ., but no special circumstances appear in this case." Opin. 23 However, the relevant "special circumstances" were discussed at length in the Company's brief (pp. 111-119), in its Reply Brief (pp. 58-61), and in the letter sent by its counsel to the Court on April 13, 1977 (pp. 3-5) responsive to the Assistant Attorney General's post hearing letter. As a result, Boston Edison requests that that portion of the Court's decision be reviewed in light of the special circumstances which it submits did, indeed, exist in this case, but which appear to have been overlooked.

V. Plant Held for Future Use

One of the principal grounds upon which the Court excluded plant held for future use from the Company's rate base was that "the Company remains free to sell the land at a profit, which goes to the stockholders, not to the ratepayers. One such sale occurred during the test year." Opin. 24 However, although the Department had found in its decision that if such plant "were sold at a profit, the gain would go to the stockholders, not to the ratepayers" (A. 113), there was absolutely no evidence in the record which supported that statement.

Similarly, although the Department then argued in its Brief to this Court that "the Company remains free to sell the land at a price above cost, the profit going to stockholders and not ratepayers. It completed one such sale during the test year, for $56,815." (Dept. Brief, p. 161),

those statements were completely unsupported by the record. This is readily apparent by examining the citations upon which the Department purported to rely in support of its argument. Since the Court appears to have misapprehended the facts on this point, Boston Edison respectfully submits that it should reconsider its treatment of this issue.

VI. Cash Working Capital

In approving the Department's calculation of the cash working capital allowance which is included in rate base, the Court stated that those working capital needs were calculated "according to the evidence". Opin. 25 In fact, the Department, in making its calculations, arbitrarily considered only selected portions of the evidence bearing upon the Company's working capital needs.

In the proceedings before the Department, the Company suggested that the Department use the so-called 45-day working capital convention in calculating the Company's working capital needs. This method was challenged by the Attorney General. As a result, the Company presented extensive testimony (Tr. 4490-4521) and a meticulous study (Ex. BE-405) describing in detail the Company's working capital needs. Nevertheless, the Department utilized neither the 45-day convention nor the detailed study. Instead it arbitrarily considered only those items which tended to reduce the calculation of the Company's working capital needs, while ignoring those which might increase it. The Department's decision was, therefore, contrary to the evidence actually before it. Although the Court's decision upholds the Department, it appears from the language of the opinion that the Court overlooked the more detailed study which had been admitted into evidence. Accordingly, a rehearing is warranted.

Moreover, even if the Department's basic approach had been correct, it failed to adjust that calculation in order to reflect the effects of bi-monthly billing. The deficiency in the Department's methodology was specifically highlighted in the Company's Reply Brief (pp. 65-66), but this point, too, appears to have been overlooked by the Court in reaching its decision.

VII. The Mystic 7 Revenue Adjustment

At pages 6 and 7 of its decision, the Court accepted into evidence both the Saunders and Kelmon affidavits which presented updated 1976 financial results for Boston Edison. It recognized that the admission of these affidavits was consistent with its obligation "to bring the proof as nearly as reasonably possible down to the date of final decision". *Opinion of the Justices,* 328 Mass. 679, 687 (1952) Nevertheless, after admitting those affidavits, the Court failed to utilize the updated information which they provided in ruling upon the Mystic 7 revenue adjustment.

Specifically, the Company had argued[7] that even if the Department's revenue adjustment were appropriate (as the Court subsequently found), the amount of that adjustment should be substantially revised in light of the more recent evidence, presented by affidavit, which dealt with the growth of 1976 kwh sales over 1975 kwh sales. The Department's adjustment had been based on a projected growth in 1976 base revenues of $16,700,000 (A. 122-123). The Saunders affidavit, which was based on eight months' actual 1976 data and a four-month forecast, showed that the growth in 1976 base revenues would actually approximate only $7,900,000. (A. 219-220) Thus, even if the Department's methodology were adopted, *merely by using the up-*

[7] See Co. Brief pp. 48-49 and Co. Reply Brief pp. 21-22.

dated financial information which the Court was bound by law to consider, the Company was still entitled to an additional $5,582,000 in retail revenues.[8] The Court's opinion overlooks this extremely critical point vigorously asserted by the Company.

There are other cogent reasons for rehearing the issue of the contested Mystic 7 adjustment:

First, the Court appears to believe that the inclusion of Mystic 7 in rate base at its year-end value "redounded greatly to the Company's benefit." Opin. 29 While under other circumstances that might be true, in this case the beneficial effects of including Mystic 7 at its year-end value were largely negated by the base revenue adjustment.[9]

Second, the Court, in distinguishing this case from the *Southbridge Water Supply Co.* case, Mass. Adv. Sh. (1975) 2245, 2256-2258[10], states that because Mystic 7 was in operation for six months during the test year, this case somehow presented a less compelling situation than did *Southbridge* for including the new plant in rate base at its year end value. See Opin. 29-30, ftnte. 13 In fact, the opposite would seem to be true. For here, unlike *Southbridge,* six months of actual operating experience was already reflected in the cost of service figures. That means that the inclusion

[8] The calculation is shown at p. 49 of the Co. Brief.

[9] $70,000,000 (the additional value of Mystic 7 actually included in rate base because of the "year end" treatment of this plant) × 9.49% × 2.0567668 = $13,663,101, the amount of the revenue deficiency resulting from the inclusion of Mystic 7 in rate base at its year end value. However, the Department's revenue adjustment then eliminated $11,200,000 of that deficiency.

[10] The Company had argued at pp. 19-21 of its Reply Brief that to be consistent with *Southbridge,* Mystic 7 should be included in rate base at its year end value with no base revenue adjustment.

of the Mystic plant in rate base at its year end value would actually be *less* likely to distort the predictive value of the test year figures than was the case in *Southbridge.*

Third, at p. 32 of its decision, the Court finds "most persuasive" the argument that the Company had accepted a similar revenue adjustment in a prior case.[11] However, the facts in D.P.U. 18200 were completely different from those in D.P.U. 18515. In that prior case, as the Company has previously pointed out,[12] Mystic 7 was included in rate base during a test year when the plant was never even in service. Since the plant did not become operational until some six months *after* the test year had concluded, some adjustment to reflect the effect of the increased loads which would exist during its first year of operation was appropriate. However, a totally different factual situation was presented in D.P.U. 18515 because Mystic 7 was actually in service during the test year. In fact, elimination of any base revenue adjustment would have been *more* consistent with the prior case, for there it had been determined that 1975 revenues, not 1976 revenues, were an appropriate match for a rate base which included Mystic 7.

Fourth, in dealing with the Company's argument that the revenue adjustment should not be made without including a full year's expenses attributable to the Mystic plant, the Court incorrectly states that the operational expenses for Mystic 7 would merely replace operational expenses for Mystics 1, 2 and 3 which had been retired in June, 1975 but

[11] Since the rates set in D.P.U. 18200 proved to be inadequate to permit the Company to earn the allowed return, it is, of course, possible that the Company was wrong in that case and that the error should have been corrected in D.P.U. 18515. That possibility appears to have been overlooked.

[12] See Co. Brief pp. 44-47.

which were nevertheless included in the cost of service figures. Opin. 34 Although this argument was made by the Assistant Attorney General in a letter to the Court dated April 8, 1977, in the Company's April 13, 1977, reply to that letter, which the Court apparently overlooked, it demonstrated that that argument was simply not accurate. (See April 13, 1977 letter, pp. 5-6)

VIII. The Pilgrim Refueling Outage

The Court summarily rejects two arguments which the Company is said to have raised "in passing" which would have diminished the size of the Department's reduction to the Company's proposed refueling outage adjustment. First, with respect to the $800,000 adjustment related to the G.E. warranty settlement, the Court finds that to include this amount in the cost of service "would be to attribute to the test year cost of service a maintenance expense for which Boston Edison had already received reimbursement". Opin. 38 However, that rationale is not borne out by the facts. The G.E. warranty settlement related to *pre-test year* maintenance expenses. Moreover, a much greater sum than the amount of that settlement had *already* been flowed through to ratepayers in previous cases in anticipation of the settlement with General Electric. As the Company pointed out at pp. 1-3 of its April 13, 1977 letter to the Court where it responded to a similar erroneous assertion made in the post-hearing letter sent by the Assistant Attorney General, the $800,000 adjustment proposed by the Company was, in fact, required in order to avoid providing ratepayers with a double credit for that settlement.

Furthermore, the Court's position on this item appears to be directly contrary to its treatment of the $160,000 property tax credit on plant held for future use. See Opin. 52 There the Court refused to allow the Company the

benefit of a property tax credit received in the test year on the grounds it related to a previous year's expenses. Here, however, it required the Company to give the ratepayers the benefit of the warranty credit even though it, too, related to a previous year's expense. These two results are difficult to reconcile.

Second, with respect to the $200,000 adjustment relating to the understatement of the cost of the refueling outage, the Court rather inexplicably asserts that "This argument comes too late." Opin. 38 The adjustment in question was supported by the evidence and argued by the Company in the briefs submitted to the Department. However, the Department apparently overlooked the point in its final decision. As a result, it was then raised again in both the Company's Brief (pp. 61-62) and its Reply Brief (pp. 28-30) to this Court. Under such circumstances, it is submitted that the argument has not been raised "too late".

IX. The Short Term Interest Deduction

In affirming the Department's calculation of short term interest expenses for purposes of computing cost of service income taxes, the Court gives no indication in its opinion that it considered the Company's argument that such an approach produces a serious mismatching of the various elements in the ratemaking process. (See Co. Reply Brief, pp. 47-49) Furthermore, the Court never addressed the argument that if the Department's approach of using projected short term debt balances is adopted, then to be consistent, it should also project AFUDC balances in normalizing the debt portion of AFUDC. (See Co. Brief, pp. 78-80; Co. Reply Brief, pp. 49-61) A rehearing should be allowed so that those issues, which apparently were overlooked, can be fully considered.

X. Retroactive Rate Relief

In its decision, the Court found that the Department had improperly eliminated depreciation on AFUDC not normalized from the Company's cost of service. That error had reduced the Department's calculation of the Company's revenue deficiency and hence its retail rates by some $2,357,000. In addition, the Company was deprived of $5,582,000 solely because of the failure to use updated financial data in connection with the Mystic 7 adjustment. The improper treatment of the G.E. warranty settlement in the amount of $800,000 and the failure to correct the Department's $200,000 clerical error in modifying the refueling outage adjustment reduced the Company's revenue deficiency by another $1,000,000. Thus, the correction of these errors alone, which are produced with no change in the substantive treatment of any of the other issues raised on appeal, would have entitled the Company to nearly $9,000,000 in additional retail revenues on an annual basis. That loss becomes approximately $15,000,000 if it is computed on a twenty-month basis.[13]

In this case, the revenues improperly denied the Company appreciably exceed the revenues granted. In such circumstances of extraordinary hardship, it is submitted that basic concepts of fairness inherent in due process and equal protection should move the Court to reconsider its conclusion that rate relief "may not be awarded retroactively as a matter of law." Opin. 4 Instead, consistent with the approach in *Potomac Electric Power Co.* v. *Public Service Comm'n.*, 380 A.2d 126, 147-149 (D.C. Ct. App. 1977), which the Court cites with approval elsewhere in its

[13] The approximate interval between the Department's original decision of August 12, 1976 and the Court's decision of April 19, 1978.

decision on other issues, the Court should fashion a remedy by which revenues unjustifiably denied by the Department will not be irretrievably lost.

Respectfully submitted,

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Attorneys for the Petitioner
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EBH/WGM:cac
cc: All parties

SUPREME JUDICIAL COURT FOR THE COMMONWEALTH
COURT HOUSE
BOSTON

FREDERICK J. QUINLAN
Clerk
WILLIAM M. CLORAN
Assistant Clerk

June 22, 1978

WILLIAM G. MESERVE, ESQ.
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Dear Mr. Meserve:

Re: Boston Edison Company v. D.P.U. Supreme Judicial Court No. SJC-832

Your application for a rehearing in re the above captioned case has been considered by the court and is denied.

Very truly yours,

FRED QUINLAN
Clerk

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COMMONWEALTH OF MASSACHUSETTS
SUPREME JUDICIAL COURT
FOR THE COMMONWEALTH

Suffolk County — April Sitting, 1977

No. 832

BOSTON EDISON COMPANY,
Petitioner

v.

DEPARTMENT OF PUBLIC UTILITIES,
Respondent

NOTICE OF APPEAL TO THE SUPREME COURT OF THE UNITED STATES

Notice is hereby given that Boston Edison Company, the petitioner above named, appeals to the Supreme Court of the United States from the decision and order of the Supreme Judicial Court for the Commonwealth of Massachusetts entered in this proceeding on April 19, 1978, which affirmed the September 30, 1975 decision and order of the Department of Public Utilities in the proceeding docketed by the Department as D.P.U. 18200/18200-A and which af-

firmed in part and reversed in part the August 12, 1976 decision and order of the Department of Public Utilities in the proceeding docketed by the Department as D.P.U. 18515.

This appeal is taken pursuant to 28 U.S.C. § 1257(2).

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Dated: July 17, 1978

CERTIFICATE OF SERVICE

S.J.C. No. 832 July 17, 1978

I, William G. Meserve, a member of the Bar of this Court and an attorney for the Petitioner, Boston Edison Company, hereby certify that I have served a copy of the foregoing Notice of Appeal to the Supreme Court of the United States upon the other parties to these consolidated appeals by causing a copy of the same to be mailed, postage prepaid, to the following persons:

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COMMONWEALTH OF MASSACHUSETTS

Suffolk, ss.

Subscribed and sworn to before me this 17th day of July, 1978.

ELISA M. LOPEZ, Notary Public

My Commission expires Nov. 22, 1979

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

August 12, 1976

D.P.U. 18515

INVESTIGATION BY THE DEPARTMENT ON ITS OWN MOTION AS TO THE PROPRIETY OF THE RATES AND CHARGES STATED IN M.D.P.U. NOS. 311 THROUGH 327, INCLUSIVE, FILED BY BOSTON EDISON COMPANY ON OCTOBER 17, 1975, TO BECOME EFFECTIVE NOVEMBER 1, 1975.

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The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

August 12, 1976

D.P.U. 18515

Investigation by the Department on its own motion as to the propriety of the rates and charges stated in M.D.P.U. Nos. 311 through 327, inclusive, filed by Boston Edison Company on October 17, 1975, to become effective November 1, 1975.

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INTRODUCTION

By Order dated September 30, 1975 (D.P.U. 18200/18200A, as amended), the Department approved a rate increase in the amount of $29.5 million for Boston Edison Company ("Company"). Less than three weeks later the Company filed the present application for a further increase of $48.8 million, since raised to $49.5 million.

The increase was to go into effect November 1, 1975, but was suspended until July 1, 1976 and later to September 1, 1976.

On May 19, 1976, after 34 days of hearings, the Department determined that, due to the number and complexity of issues relating to rate relief, there was substantial danger that the important question of rate design would not receive adequate attention within the statutory suspen-

sion period. The Department had hoped that both the rate relief and rate design aspects of this case could be completed in sufficient time so that a single order could be issued prior to the suspension date. However, it does not appear that the hearing and briefing schedule for the rate design phase of the case will permit the issuance of a single order. Accordingly, this Order is limited to the question of the extent to which the Company is entitled to a rate increase. As to this question, it is intended that this Order shall be the Department's final decision.

The Company's basic contention is that because of regulatory lag and continuing inflation, it has suffered financial decline to a point where its ability to serve its customers adequately is seriously endangered. The Company appears once again to embrace its historic position that the only remedy for its financial difficulties is rate relief.

The Intervenors[1] principal argument is that the Company's financial health will improve as a result of increased revenues from a new plant which the Company has recently constructed. This contention is considered as part of the general discussion of revenues below.

It is our view that rate relief should be a last resort, and that it should be granted only after there has been a proper showing that every reasonable effort has been made to hold expenses down and to ease the burden imposed by the construction program. Although the Company contends that it has made efforts to economize, the record does not indicate that the Company has acted as vigorously as it might have to reduce or eliminate expenses incurred for non-essential services; nor does it show any substantial and sustained

[1]"Intervenors" as used herein, shall refer to the Attorney General and the Massachusetts Consumers' Council unless otherwise indicated.

attempt to relieve the financial strain attributable to construction.

We have elsewhere expressed concern as to whether rate increases are justified absent a showing of efficient operations. *Fall River Gas Co.*, D.P.U. 18416 (1976). We therefore require that the Company affirmatively demonstrate, in any future rate case, that it has moved to improve the efficiency of its operations and the productivity of all its employees, both management and non-management. Such a demonstration, at a minimum, would include a showing that employees' wages, salaries and numbers are not excessive and that the construction program is the least that will provide necessary and adequate service.

In the *Fall River* case we made a similar requirement, with the evidence to relate to the period between the date of the Order and the next rate filing. Had such a requirement been applicable to the present case it would have been virtually meaningless, as the present application came less than three weeks after the last rate Order. We therefore direct that the period shall be that from the end of the test period used in this case (December 31, 1975) to the date of the next application.

We now proceed to a consideration of the issues relating to rate base, revenues and expenses, and rate of return.

RATE BASE

A. Average vs Year-End Rate Base

The test period applicable here is the year 1975. The Company urges the use of a year-end rate base to offset the alleged adverse effects of regulatory lag. The Intervenors vigorously oppose this, urging the use of an average rate base.

In our view, an average rate base is the appropriate measure. Ordinarily its use is a reasonably reliable basis for determining the amount of plant and other investment needed during the test year to produce the revenues for that year. However, exceptions are made when an unusually large unit has come into service during the year.

That is the case here. On June 14, 1975, the new 600 megawatt plant called Mystic Unit No. 7 ("Mystic 7") went into commercial operation. This investment constituted about one-seventh of the year-end rate base, a far greater than normal addition. In *Boston Edison Co.*, D.P.U. 18200 (1975), the test period was 1974, so that the plant came on line almost six months after the close of the test period. The Department nevertheless recognized that the situation was one calling for special consideration. We normalized the test year by assuming that Mystic 7 was in operation throughout the period, by making certain additions to test year revenues, adjustments to the cost of service, and other adjustments to the test year rate base.

The treatment given Mystic 7 in the present decision is consistent with, though not the same as, that in D.P.U. 18200. Independently of that consideration, the treatment here is one which produces a just and reasonable result.

We conclude that, as in D.P.U. 18200, Mystic 7 should be assumed to have been in the rate base throughout the test year. It should be included in the rate base at the net amount attributable to it, after depreciation, as of the end of the year. This, with appropriate adjustments to revenues (discussed hereinafter), will provide a proper return on this investment and will at the same time give a fair approximation of the revenues to be expected from it. Thus, a reasonable matching of rate base, revenues and expenses as to this item will have been achieved with such precision as the nature of the problem permits.

The unusual circumstances of Mystic 7 aside, however, we are not persuaded by anything in this record or by the Company's argument that we ought to abandon our well-established practice of employing an average rate base. As we said recently in *Western Massachusetts Electric Co.*, D.P.U. 18252 (1975):

> "The rate making process seeks to reproduce in the future the actual results of the test year, properly adjusted. It follows that the process should be concerned with arriving at a fair return on the average rate base which will obtain in the future, rather than a beginning or end of period rate base.
>
> Criticism of the use of average rate base may be answered by appropriate adjustments to the test year and by use of the most current date available. p. 3.

Accordingly, for investment other than Mystic 7, we will use as the Company's proper rate base, the average of the beginning of year and end of year account balances.

B. Compensating Balances

In its calculation of rate base the Company included $22.6 million of balances which it alleges it is required to maintain with various lending institutions in order to assure lines of credit for short-term borrowing. It represented that that amount was actually on deposit and attributable to the Company's electric operations.

The argument runs that if the Company borrows, say, $1,000 at 8% with no compensating balance requirement, it would be able to use that amount in its construction program at a cost of $80 per annum. If, on the other hand, it were required to maintain a $100 compensating balance, it would pay the same $80 for only $900 of usable funds.

Up to that point the argument is correct, if such are the facts. There are several difficulties, however. One is that

in no case has the Company come forward with a loan agreement showing a compensating balance requirement.[2] It is common knowledge in the industry that the rigidity with which the requirement is enforced varies to a considerable degree with money market conditions, the banks being less disposed towards strictness when funds are plentiful.

Second, there is no showing as to any portion of the $22.6 million that it would not have been maintained but for the requirement. There is in the rate base a cash working capital allowance which the Company calculates at $30.5 million. It is probable in the highest degree that at least some substantial portion of the amount claimed as compensating balances would be maintained in the lending banks in any event. Absent any showing of lack of duplication, some overlap must be assumed as a matter of common sense.

Third, the establishment of compensating balances appears to be a device for the convenience of the banks. Such balances are not used and useful in the public interest. The public would certainly be no better off than if the Company were to pay the same effective rate of interest on the portion of the loan truly available for its use, with no compensating balances. Not only do compensating balances disguise the extraction from the borrower of a higher effective rate of interest than appears on the face of the loan, but they also result in a more impressive balance sheet for the bank than would otherwise be the case, since the ratio of loans to deposits is made to appear more favorable.

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[2] The annual reports of the Company to stockholders and to the Federal Power Commission state that there are no legal restrictions on the withdrawal by the Company of compensating balances.

Fourth, the rejection of these balances as part of the rate base represents established precedent which the present record does little, if anything, to contradict.

The Company proposes an alternative to the inclusion of compensating balances in rate base. It suggests that a separate return could be calculated for the balances on the basis of actual cost instead of the overall rate of return. Such an approach, the Company says, would eliminate the possibility that it could earn a greater rate of return on compensating balances than the interest rate it was required to pay on its short-term debt (a possibility we noted in discussing this issue in D.P.U. 18200).

The proposal must be rejected for the reasons discussed above. Simply stated, compensating balances do not represent an investment upon which the ratepayers should be required to pay a return — even a reduced return.

The Company's final argument in this area is that the interest expense figure used in the income tax calculation should be reduced by the amount of compensating balances times the prime interest rate used to calculate short-term interest expense and the cost of the First National Bank of Chicago Note. The Company contends that such adjustment would prevent the ratepayers from getting a tax benefit in the form of an interest deduction on compensating balances.

While compensating balances may increase the effective rate of interest on borrowed funds, as discussed above, they do not increase the interest expense which is deductible for income tax purposes under Section 163 of the Internal Revenue Code. Thus, the ratepayers are not getting an income tax benefit from compensating balances.

For all these reasons, the Company's positions with respect to compensating balances are rejected.

C. Mystic Units 1, 2 and 3

On June 1, 1975, the Company retired three generating units known as Mystic 1, 2 and 3. The Company argues that the investment should be included in plant in service for rate base purposes because the units are used and useful up to the time of their retirement. If they are excluded, says the Company, then all new plant which went on line in 1975 and which will be in service at the time any new rates go into effect should be included at its full value, not merely at its average value for the year.

The Company has included in its rate base a net amount of $1.7 million for the three plants. This number comes from subtracting $10.2 million of accumulated depreciation from the $11.9 million of December 31, 1974 balance of plant cost.

The $1.7 million represents retired plant. The Department has consistently held that the public should not be required to pay a return on property that is no longer used and useful. *Fitchburg Gas & Electric Co.,* D.P.U. 18031-A (1975). Reasons peculiar to this case reinforce that policy.

It is, of course, the result reached and not the method employed which is controlling. "It is not the theory but the impact of the rate order which counts. If the total effect of the rate order cannot be said to be unjust and unreasonable, judicial inquiry is at an end." *Federal Power Commission* v. *Natural Gas Pipeline Co. of America,* 315 U.S. 575, 586 (1942). Similarly, the Supreme Judicial Court said in *Boston Gas Co.* v. *Department of Public Utilities,* 324 N.E.2d 372, 376 (1975), that "our fundamental law requires no particular theory or method to be used in determining rate base . . ."

Here the Department is giving a full year's effect in the rate base to Mystic 7 even though it did not go into operation until about the time Mystic 1, 2 and 3 were taken off line. The addition of Mystic 7 was a known change requiring special treatment. In normalizing the test year by hypothesizing the inclusion of Mystic 7, it is equally appropriate to exclude Mystic 1, 2 and 3. This exclusion is correct as a matter of consistency with the overall treatment of plant account in the rate base.

D. The Scrubber

The Company has included in its rate base $4.1 million for the unamortized portion of a pollution control device known as a scrubber, which was used to reduce the sulphur content of flue gas in an oil-fueled generating station. It was part of a project at the Mystic Station conducted in conjunction with the Environmental Protection Agency. The record indicates that its potential for savings was substantial.

In 1974, however, it was removed from service when facilities to process the sulphur crystals recovered as part of the scrubbing process became unavailable. The evidence that it failed for economic reasons is not challenged.

The reason the Company has set up the unamortized portion in the rate base is so that it may write off over a period of time. It proposes a five-year period. The account in which the scrubber now appears is called "Unamortized Research and Development Costs". It is the same item discussed in D.P.U. 18200, at which time it was classified as "Property Held for Future Use". In that decision we excluded it from rate base.

The treatment proposed by the Company would give it the same return on the unamortized balance as if the scrubber were still used and useful and, in addition, would allow it to charge off amortization of 20% a year. Thus the rate-

payer would, for the next five years, be paying more than if the $4.1 million scrubber were in full operation and being written off at the same 3% rate as that of fixed assets.

The Company is not entitled to earn a return on this item, which has been completely retired and was not used or useful at any time during the test year. At the same time, the stockholders alone should not be required to absorb the loss. The investment was a management decision which cannot reasonably be called an imprudent expenditure. It was simply a project that did not mature as expected.

It is ordered that the item be deducted from the rate base, but that it be amortized at the same rate as the overall rate of return granted herein (or as may be granted in subsequent rate cases) until it is fully written off. In that way the ratepayers will properly bear their share of the investment, but will be paying no return on it and will be paying for it over a limited period. The amortization will be at no greater rate than the return that a depreciating asset would have earned, and here no depreciation will be charged to cost of service.

The stockholders are also bearing a part of the burden of the investment. They are being required to forego a return. See, *Worcester Gas Light Co.*, D.P.U. 16316 (1970), cited in *Fitchburg Gas and Electric Light Co.*, D.P.U. 18031-A (1975). They should recover their investment as promptly as is reasonable, but should not profit from the failure of the project. The disposition ordered here achieves that result without causing the ratepayers to bear charges any higher than a fair rate of return would require. Instead of return, the charges will go to reduce the remaining part of the investment, with eventual reduction of the cost of service when the item is fully amortized.

E. Plant Held for Future Use

Included in the Company's proposed rate base is $1.9 million of Plant Held for Future Use, of which $1.7 million is land. The Company argues that it should all be included in rate base, because it is necessary that sites for future use be acquired well in advance, and because in the long run a prudent acquisition program of this sort may reduce the costs to be borne eventually by the ratepayers.

Implicit in the Company's argument is the suggestion that should Plant Held for Future Use not be included in rate base, the Company would have no incentive to acquire such plant and thus save money on an expenditure which might otherwise have to be made under unfavorable circumstances. This suggestion, however, has not been borne out by experience as far as we can determine.

Quite apart from the question of whether the inclusion of Plant Held for Future Use in rate base acts as an incentive or a deterrent to sound investment policies, we are not disposed to require the Company's customers to give a return on plant which is not currently used and useful in providing service to them. Such is the case with Plant Held for Future Use. Moreover, we have no assurance that such plant will ever be used for the benefit of the Company's customers. If part of it were sold at a profit, the gain would go to the stockholders, not to the ratepayers. That has happened in the past and it will doubtlessly happen again in the future. See, *New England Telephone and Telegraph Company*, D.P.U. 18210 (1975).

We conclude that this item is not a proper part of rate base.

F. Pilgrim 1 Facilities Transferred to Pilgrim 2

In 1974, a part of the Company's investment in Pilgrim 1 was retired on the Company's books, because that part was sold to other utilities as part of their participation in Pilgrim 2. The remainder, amounting to $8.1 million, has been included in the Company's calculation of rate base.

The Intervenors oppose this inclusion, saying that it is part of the, as yet, unfinished Pilgrim 2 and should be excluded as Construction Work In Progress ("CWIP"). The record shows, however, that the plant in question, consisting principally of a breakwater and other shore protection with associated dredging, was used and useful during the test year in the service of the Company's customers. Currently, it is being used by Pilgrim 1 and can be used by both Pilgrim units.

The record indicates that the facilities were necessary for Pilgrim 1. That they may also become useful or necessary for Pilgrim 2 should not deprive them of their proper status as part of the rate base. This is consistent with the result reached in D.P.U. 18200. The Intervenors, in another connection, urge that the Department follow the dictates of the Supreme Judicial Court in *Boston Gas Co.* v. *Department of Public Utilities, supra,* at p. 379 in which it said.

> A party to a proceeding before a regulatory agency such as the Department has a right to expect and obtain *reasoned consistency in the agency's decisions.* This does not mean that every decision of the Department in a particular proceeding becomes irreversible in the manner of judicial decisions constituting *res judicata,* but neither does it mean that the same issue arising as to the same party is subject to decision according to the whim or caprice of the Department every time it is presented. (Emphasis added.)

There is no reason to depart from the result previously reached.

G. Allocation of L Street Plant

A plant known as the L Street Plant is devoted primarily to the generation of steam. Because the pressure from the boilers is too high for the steam distribution system, the Company has chosen to use a steam turbine as a pressure-reducing valve. As part of this process a generator is operated which produces electricity. The Company has allocated such facilities as the steam turbine and the electric generators to electric operations. The allocation amounts to $2 million.

The Intervenors object on the ground that the Company has not met the burden of showing that as much as 22% of the L Street Plant is used for electric operations.

However, when the Company's witness explained the method by which the allocation had been made, the Intervenors did not challenge him by cross-examination or otherwise on the point. In light of this circumstance, we find it somewhat odd that the Intervenors would now complain that the Company has failed to meet its burden of proof that as much as 22% of the L Street Plant is used for electric operations.[3] Perhaps more to the point, however, is the fact that at page 351 of the Company's Annual Report for 1975 to the Federal Power Commission ("FPC") the 22% allocation figure appears with the note that it was approved by the FPC. All things considered, therefore, we find the proof more persuasive than the challenge. The Company's allocation figure is accepted.

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[3] We might observe here that the 22% allocation is consistent with the Company's description of the L Street Plant as one which is principally used for the generation of steam for the Company's steam-heating customers.

H. Materials and Supplies

The Company included $19.2 million for materials and supplies in its rate base calculations. The Intervenors point out in their initial brief that the Company's witness testified to a figure of $16.7 million and that a like figure appears in the Form 1 Report to the FPC. They therefore urge its use here.

In its reply brief, the Company states that the $16.7 million is the correct year-end figure for materials and supplies before allocating part of it to steam-heating operations. After that allocation, the correct year-end number is $15.6 million.

However, the year-end number is not the one to use. The item is being calculated on an average basis. The 1974 year-end balance for materials and supplies was $22.8 million. The 1975 year-end balance was $15.6 million. The average of the two is the $19.2 million proposed by the Company. That figure is accepted.

I. Sale of Land

The Company includes in rate base $57,000 for real estate sold during 1975. The Intervenors would rule it out. The item is quite small and warrants no extensive discussion.

As the land has been sold, the Company is not entitled to earn a return on it. It is excluded.

J. Pilgrim Station Stabilizing Line

The Company's average rate base includes $2.9 million for a line the purpose of which is to provide emergency service in the event of the unavailability of either of two generating plants. It is also a back-up line for the transmission system if certain other transmission lines cannot be used.

The record shows that the line was built by New England Gas & Electric Association ("NEGEA") and used in connection with the construction of Pilgrim 1. Since that plant's completion, the line has been used to stabilize voltage in the Cape Cod area between the Pilgrim and Canal units. Rental charges by NEGEA are charged to current expense. Rentals incurred while Pilgrim 1 was being built were capitalized, to be amortized over the life of the unit.

Since the capitalized expenses were not included in the Pilgrim 1 plant account, but were in fact part of the cost of building Pilgrim 1, they are properly includable in rate base.

K. Working Capital

Working capital as a rate base item is an allowance which recognizes the need of a company to supply its own funds to meet current obligations as they arise so as to operate efficiently and economically. Ordinarily it is taken at one-eighth of the total annual cash operating expenses that require working capital, that is, a figure equal to forty-five days of such expenses. See, e.g., *Alabama-Tennessee Natural Gas Co.* v. *FPC*, 203 F.2d 494 (3 Cir. 1953). The figure is widely used, subject to modification to meet particular situations.

The Company included $30.5 million as its cash working capital requirement. In addition, it included $28.9 million on account of a 60-day lag in the collection of revenues associated with fuel expenses. The amount appears in the rate base as a separate item. Thus, the total for working capital and deferred fuel included in the Company's proposed year-end rate base is $59.4 million.

The Intervenors argue that the Company has, in effect, asserted a lag of 105 days between incurring the fuel ex-

pense and receiving payment (45 days for working capital and 60 days for deferred fuel), and that its witness on cross-examination admitted that 90 days is correct. The Intervenors' recalculation shows a difference of $4.6 million. Their calculation comprises (1) operation and maintenance ("O & M") fuel at a 90-day lag, $38.4 million; (2) O & M purchased power at a 60-day lag, $4.8 million; and (3) O & M other at the usual 45-day lag, $11.5 million, making a total of $54.7 million.

The 45-day allowance for "other" O & M expenses is the standard calculation after the usual elimination of purchased power costs. The inclusion of those costs at a 60-day lag is supported by evidence of the Company's witness. So is the deferred fuel cost, figured at a 90-day lag, rather than at 105 days as initially proposed by the Company.

In summary, then, the working capital component of rate base is here calculated to reflect a 90-day lag for fuel, a 60-day lag for purchased power and a 45-day lag for other O & M expense. In addition, we have given a 45-day lag effect to the net O & M adjustments contained in cost of service.

Operations and Maintenance:			(000)
Fuel	$153,737	90 days	$38,434
Purchased Power	28,873	60 days	4,812
Other	92,344	45 days	11,543
Net D.P.U. Cost of Service Adjustments	(389)	45 days	(48)
Total			$54,741
Less Average Deferred Fuel			27,705
Net Working Capital			$27,036

This means that the working capital requirement was not adjusted to reflect non-cash items. This is consistent with

the FPC convention concerning the relationship between cash operating expenses and working capital. See, e.g., *Michigan Gas & Electric Co.*, 39 FPC 503, 517 (1968).

L. Deferred Taxes

The Intervenors dispute the Company's deduction of $1.6 million from the deferred tax account. The net effect of such an adjustment is to increase the rate base by a like amount. The figure represents the deferred taxes on the interest portion of the Allowance for Funds Used During Construction ("AFUDC") attributable to Mystic 7 which was not normalized in this case and in D.P.U. 18200.

In *Boston Edison Co.*, D.P.U. 17795 (1974), the Department determined that deferred taxes generated through normalization of income taxes should be deducted from rate base because they are cost-free funds and therefore not entitled to a return. In D.P.U. 18200, however, the Department permitted the normalization of income taxes only for the time that Mystic 7 was not considered to be a part of the rate base. It would be inconsistent to allow Mystic 7 a return as part of the rate base at the same time that an allowance was being made for funds used during its construction.

Therefore, because the Company normalized these taxes on its books, but not for rate-making purposes, the Company's rates did not cover, by $1.6 million, the amount that it had normalized on the books. That is, the Company was required to flow through to its ratepayers amounts it had already normalized on its books. Thus it never received the cost-free funds that could be expected to come in as a result of the fact that normalization of income taxes caused book entries for taxes to exceed current outlays in the years involved.

It follows that the Company's position is correct, and its adjustment will be allowed.

Based on the foregoing, the rate base may be calculated as follows:

		(000)
Plant in Service		$1,281,270
Accumulated Depreciation		(320,858)
Net Plant in Service		960,412
Adjustments:		
Eliminate Mystic 1, 2, 3 (net)	(863)	
Eliminate Scrubber (net)	(2,544)	
Eliminate Plant Sold	(57)	
Annualized Depreciation on 1975 Plant Additions other than Mystic 7	735	
Eliminate Plant Held for Future Use	(1,892)	
Depreciation on Easements	120	(4,501)
Adjusted Net Plant in Service		955,911
Additions:		
Nuclear Fuel	39,970	
Materials and Supplies	19,216	
Working Capital	27,036	
Deferred Fuel	27,705	
Unamortized Promotional Allowance	3,810	
Unamortized Interest Payments	4,738	122,475
Deletions:		
Reserve for Deferred Taxes	(79,721)	
Unamortized ITC	(6,112)	
Construction Advances	(725)	
Customer Deposits	(2,918)	
Additional Deferred Taxes	(2,218)	(91,694)
Rate Base		$ 986,692

COST OF SERVICE

I. Revenues

A. *Adjustment for Mystic 7*

The purpose of such an analysis as the present one is to establish a fair relationship among rate base, cost of service and rate of return. The matching of rate base and cost of service in this case presents a harder problem than usual because of the huge addition to rate base (Mystic 7) which took place during the test year.

The usual averaging method has been employed to determine the rate base, except as to Mystic 7. The theory of the average rate base is that it represents the amount of plant and other assets needed to produce the revenues that would have resulted in a reasonable return during the test year, a result that will presumably continue into the future.

When a large plant is added during the year, however, consideration must be given to its revenue-producing capabilities. To do so here is consistent with what was done in D.P.U. 18200, where the test year was 1974, but where a projected increase in revenues attributable to Mystic 7 was included.

This record shows that the Company projects a 6.5% increase in retail sales (in kilowatt-hours) for 1976. The increase in dollar revenues is expected to be 6.2%, or $16.7 million. It plainly is not appropriate to add the entire projected increase to test year revenues, since some of those revenues are attributable not to Mystic 7, but to the remainder of the rate base, to which the normal process of averaging has been applied.

A reasonable way to adjust revenues to mesh with the Mystic 7 increase in rate base is to attribute the expected

revenue additions to Mystic 7 in the same proportion that the Mystic 7 test year additions to rate base (about $145 million) bear to total test year additions to rate base (about $216 million). The result of this is to add some $11.2 million to test year revenues.

B. *Interest on Overdue Accounts*

Through an oversight, the Company included in its operating revenue figure for interest on overdue accounts not only the revenue from electric customers but from steam customers, as well. The steam revenues of $197,000 should not have been included.

The Company's figure also included $111,000, consisting of a one-time charge imposed on New England Power Company ("NEPCO"). That charge should not have been included, as it is not a recurring item. Thus a total of $308,000 should be subtracted from the Company's initial figure for this item.

When annualized, as the Intervenors suggest, the net result is to increase revenues by $177,000.

C. *New England Power Company Contract Revenues*

On November 1, 1975, the Company began to serve NEPCO under a contract expiring October 31, 1976. Of the expected revenues of $2.7 million for the year, $452,000 was received during November and December of 1975, the last two months of the test year. It has not been annualized because the Company evidently will not receive more than two months of revenue from this contract while the rates fixed in this Order are in effect.

We accept the revenues reported by the Company for this contract.

D. *Wholesale — Retail Allocation*

The Company is said by the Intervenors to have included in its revenues $2.4 million as "the wholesale deficiency found in D.P.U. 18200".[4] The 'ntervenors urge that $3.2 million be added to this amount because of a proposed rate increase to wholesale customers filed January 3, 1976, with the FPC. This adjustment, they say, will offset certain deficiencies in the way the Company has allocated its alleged revenue deficiency between its wholesale and retail customers.

Essentially, the Intervenors' adjustment is grounded upon the fact that the Company has used a different allocation method in this proceeding from the one it used in its most recent rate case before the FPC. The result is a variance in the allocation percentages presented to the two regulatory bodies. The Intervenors argue that the Company should employ the same allocation method for wholesale and retail costs in the forum which regulates wholesale rates (the FPC) as it employs in the forum which regulates retail rates (this Department).

The Company counters with two explanations for the differences in allocation percentages presented to the FPC and to this Department. The Company first says that the allocation studies covered different time periods. The two studies submitted in this case were based upon the calendar year ending December 31, 1975. Two studies were also presented to the FPC. One was based upon a twelve-month period ending September 30, 1975, and the other covered a

[4] Tr. 1897, Lines 18-19.

projected test year ending December 31, 1976. Because of the differences in time periods covered, the account balances for rate base, revenue and expenses varied and resulted in different allocation percentages.

The second explanation the Company offers is that it used different demand allocation factors before this Department from the ones it used before the FPC. In developing the allocation factors to be used before the FPC, the Company used the average of the twelve monthly peaks. Before this Department, those factors were based upon a weighted average of the summer and winter peaks.[5]

The Company's witness on this subject testified that he actually prefers the method used before this Department. However, the method employed before the FPC, he says, has been used by that agency in almost every one of the Company's cases there. It was therefore used in the most recent proceeding so as to avoid controversy.

That allocation studies based upon different time periods should have different results is not surprising. Thus, we have no difficulty in accepting the Company's explanation that the allocation percentages used before the FPC and this Department vary because of the different time periods covered by the studies.

We do, however, have some difficulty with the Company's use of a different allocation *method* before the FPC from the one it used before us. If the result of both studies were consistent, our concern would be lessened. But such is not the case, and we cannot approve the continued use by the Company of alternative methods which produce different results before the FPC from those presented to us on the same subject.[6] Without endorsing any particular method, we must, nevertheless, direct the Company in the future to be consistent in the allocations presented to this Department and the FPC.

[5] The Company's reliance on the weighted average of the summer and winter peaks is based upon the notion that costs should be developed by taking into account the Company's two seasonal peaks. Because the summer peak is the dominant peak and the cost of serving it is greater, it receives double weighting.

With respect to this case, although the allocation method differs from the one used before the FPC, we do not find it unreasonable. Nor does this record support the Intervenor's mathematical reconciliation of the two methods. Accordingly, in this case, we accept the Company's allocation.

E. *Contract Fuel Clause Revenues*

The Company's witness testified that in removing fuel revenues and fuel expenses from the cost of service related to contracts with municipal customers and with NEPCO, it had not removed the correct amount of revenues, and that the understatement amounted to $276,000. Although the Company knew the amount of its total contract revenues, it did not know how much consisted of fuel revenues.

When the facts were determined, it appeared that the fuel portion was slightly higher than originally estimated. The adjustment that the Company proposes is designed to correct the estimate so that it reflects the actual experience.

We accept the elimination of the additional $276,000 of fuel revenues from test year revenues.

[6] As the Intervenors point out, the use of one allocation study before this Department could result in a higher percentage of the revenue deficiency allocated to retail customers and thus higher retail rates. On the other hand, the use of the alternative study before the FPC could result in a higher percentage of the revenue deficiency allocated to wholesale customers and thus higher wholesale rates. This could mean that in a given situation the Company might collect more than 100% of the total revenue deficiency attributable to electric operations.

II. Expenses

A. *New Bedford Lease*

The Company paid to New Bedford Gas and Edison Light Company $315,547 for rental of a transmission line during the test year. The lease was terminated as of July, 1975. No renewal is planned for the near future. The Company agrees that this amount should be eliminated from cost of service. It is so ordered.

B. *Sandy Pond Lease*

The Company argues, however, that during 1975 it agreed to support the cost of a new 345 kv transmission line being built by NEPCO from its Sandy Pond substation through Tewksbury and Burlington. There is testimony that commencing July 1, 1976, the rental cost to the Company would be $143,000 per month, or $1.7 million annually.

We recognize the Sandy Pond lease to be a known and measurable change and find that the test year should be adjusted to account for it.

C. *Amortization of the Price Waterhouse Report*

In its decision of July 31, 1974 in D.P.U. 17795-A, the Department ordered the Company to retain an independent consulting firm to conduct a management study looking towards the elimination of management inefficiencies and towards increased productivity of the Company's personnel generally. A report was prepared by Price, Waterhouse & Company at a cost of $230,000.

The Intervenors agree with the Company that the report is worthwhile and will benefit the Company in the future. They argue that as the Company expects to implement the report through 1978, it should be amortized over that period, which extends three and one-half years from the midpoint of the test year.

Certainly the report is not a recurring annual expense. Its full cost therefore should not be charged to the test year. It should be amortized over some period. However, an assessment of its benefits and their expected duration should not be the criterion for measuring the amount of amortization. The amount of amortization should not depend on the merits of the report or on a hindsight view of the probable duration of its benefits. Though not a capital investment, the report is in a way comparable to the scrubber, discussed above, in that it should be viewed as nearly as possible as it appeared when it was undertaken. This item is also comparable to rate case expenses, which are not considered capital expenditures and hence not part of the rate base. Such expenses, though they may be incurred in one year, are properly written off over a longer period.

Without commenting on the usefulness of the report or indicating its useful life, but to avoid an inordinate concentration of expense, we conclude that the cost of the report should be amortized over a period of three years. Consistent with the Department's treatment of rate case expenses, the unamortized balance is not included in the rate base. See, *Boston Gas Company,* D.P.U. 18264 (1975).

It is ordered that the test year be modified to show one-third of the cost of the report, or $76,667, as an operating cost.

D. *Amortization of Leasehold Improvements*

An issue exists as to the rate at which the Company's improvements to its leasehold at the Prudential Center should be amortized. The lease runs for 15 years, with an option of renewal. The Intervenors argue that the im-

provements "seem to be capable of extending through another 15 year lease," and that as the Company is planning to exercise the renewal option, the amortization should extend over a 30-year period.

The lease has four more years to run. The renewal option has not yet been exercised; nor is it certain that it will be. The Company points out that the guideline life recommended by the Internal Revenue Service for fixtures of this type is only ten years (IRC Reg. § 1.167(a)-11). The 15 period is currently being used, and it appears to be reasonable. The Company's practice in this matter is approved.

E. *Inventory Loss*

In the test year the Company experienced a loss of $165,000 from its general stock account, as a result, according to the Intervenors, of "theft and adjustment of inventory records to accord with the actual physical inventories". They contend that the rate-payers should not pay for the Company's inventory losses or for "inventory costs which are derived by adjusting to reflect the actual physical inventory".

The Company responds that it is inevitable that a company of its size will experience a certain number of thefts during any year. Difficulty in reconciling physical inventory with inventory records is also to be expected. The Company also points out that the test year inventory loss was somewhat below the average loss experienced in the three years prior to the test year.

Virtually every substantial business which has an inventory capable of pilferage will suffer some pilferage. When it does, an adjustment of inventory records becomes necessary. It is a normal cost of doing business, regrettable

though it is. Therefore, it is properly includable in cost of service.

F. *Nuclear Refueling and Maintenance Expense*

The Company would increase test year operating expense by $4.2 million to account for the fact that its nuclear plant, Pilgrim 1, was not taken off line during the test year for fueling and maintenance. The Company contends that this will be an annual charge. The Intervenors argue that past experience and future planning belie the assertion that this cost will occur annually.

It is also argued by the Intervenors that in the future more of the maintenance done during unscheduled outages will be done during scheduled outages. Therefore, part of the increase proposed by the Company will be devoted to activities already included in test year operating expenses. The trouble with this argument is that it refers to an unknown amount. There is no basis in the record for a decision as to how much of the increase will be devoted to such activities. The argument, therefore, must be rejected.

However, it is not clear that Pilgrim 1 will undergo a scheduled refueling and maintenance outage every year. Since the plant began commercial operation on December 9, 1972, it has been off-line twice; another outage is scheduled from March to May of 1977: and still another to end approximately in November, 1978. The most recent outage was scheduled to end in April of this year. Thus the next two full cycles run from April, 1976 to November, 1978, a period of 33 months, or an average of 16½ months per cycle.

It is true that the Company expects a refueling and maintenance outage in each of the three calendar years 1976, 1977 and 1978, but these outages are scheduled more than twelve months apart. The testimony of the Company's wit-

ness was that refueling outages at nuclear plants are "typically" scheduled "about" once in twelve months. But the outage scheduled for October, 1975, was rescheduled to January, 1976, which is why the test year does not show the expense.

Both experience and prospect make it seem unlikely that a 12-month cycle will be typical. Assuming that the apparently unusual length of past cycles will not be repeated, a 16½ month cycle beginning in April 1976, is the most reasonable estimate that the record will support. Thus the proper amount for this item in cost of service is $3.1 million, resulting in a net reduction in the Company's calculation of $1.1 million.

G. *The 1976-1977 Wage and Salary Adjustments*

The Company has projected wage and salary increases of $4.3 million, of which $3 million represents raises in wages to union employees effective May 15, 1976, and $1.3 million for non-union personnel, effective October 1, 1976.

The Intervenors would rule out these increases from consideration entirely. They argue that adjustments of this sort are "fraught with speculation" and will be in effect almost two years beyond the end of the test year, which, they say, makes it unreasonable to allow for them.

Adjustments to a test year's operating expenses are made to reflect known changes which become effective within a reasonable time after the end of the year and are a continuing factor in the operations of the company concerned. Here the Company is contractually committed to the union wage increase which is already in effect. Management salaries, as the Company points out, "have generally increased at about the same proportion as wages", and the Department has allowed similar adjustments in the Company's last two rate cases.

The question is not whether some of the increases will not occur until 1977, but rather whether they are quantifiable and become effective within a reasonable time after the end of the test year. What is a reasonable period will vary from one case to another. It would hardly be fair to rule, without prior warning, that the periods here involved are unreasonable when approval has been given to like procedures in the past. Accordingly, we will accept the Company's adjustment for wage and salary increases as modified in accordance with Part H hereof.[7]

H. *Adjustment for Changes in Number of Employees*

The Company's adjustment to the test year cost of service on account of the wage and salary increases makes no allowance for the fact that such adjustment is based largely on 1974 employment levels. Employment has since declined.

The Company concedes the theoretical validity of changing the adjustment to reflect this decline. However, it contends that as wages and salaries are likely to rise again in 1977, the rates set in this proceeding will be less likely to cover such an increase. We reject this contention as being too speculative. It has been established on this record, however, that the Company has fewer employees now than it had in 1974. For this reason an adjustment to cost of service is appropriate.

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[7] In the future, it will not be enough to assert that the wage and salary payments are legally authorized, that it is reasonable to presume that those who receive them will earn them, and that the future will vindicate the level of compensation. The reasonableness of the payments should be shown. There is precedent for disallowance absent such a showing. See, *Colorado Interstate Gas Company*, 11 FPC 324, 335 (1952).

There is substantial agreement that to allow for the change in the level of employment would require a reduction of $446,000 in the adjustment made by the Company with respect to this item. It is so ordered.

I. *Estimated Property Taxes.*

The Company included in its cost of service a projection of property taxes for the latter half of 1976. The projection is for an estimated increase of $1.3 million during that period. The Company relies on the alleged allowance of a like item in D.P.U. 18200. All that is said there, however, is that "Property tax expenses have been annualized".

It is proper to annualize a known increase in property taxes, but not an estimated one. The same issue was raised in *Massachusetts Electric Co.*, D.P.U. 18204 (1975) and the same result was reached. The situation there was a stronger one from the utility company's viewpoint in that tax rates had apparently been officially established in many of the communities, but this appeared only from the brief, not from the record, and was therefore rejected. In neither cases does the record show the receipt of bills, and in neither case is the Company's estimate acceptable.

J. *Annualization of 1975 Property Taxes*

The Company adjusted its proposed cost of service by $854,000 to annualize the tax increase on property, other than Mystic 7, which took place in the last half of 1975, and by $2.8 million to annualize the property taxes on Mystic 7 in 1975.

The Intervenors argue that either the increase should be rejected or it should be offset by an allowance for the increased revenues to be derived from Mystic 7.

The annualization of these taxes is a proper adjustment for known changes occurring within a reasonable period after the close of the test year. It is approved. The allowance of the portion related to Mystic 7 is consistent with the reasonable matching of rate base, revenues and expenses which we have previously discussed.

K. *Contested Property Taxes*

The Company is attempting to recover and believes it will receive in the future, $2.3 million in property taxes which are presently the subject of dispute with various municipalities. In accounting for these contested property taxes, the Company has expended them for rate-making purposes, but has deferred them on its books. It is the Company's position that since these taxes were assessed and paid, they are a proper rate-making expense. If any contested taxes are recovered, the amount recovered will be applied to reduce the property tax expense at that time.

The Department finds that consistency requires cash basis treatment for these property tax items. Payments, therefore, should be considered current expenses in cost of service, and recoveries, upon receipt, should be considered as reductions in those expenses.

A question arises as to the taxes on a plant known as Old Edgar in Weymouth. The plant is retired. Therefore, taxes on it would not be properly includable in cost of service.

The Company's witness testified that, in proceedings against the Town of Weymouth before the Appellate Tax Board, the Town has taken the position that the Old Edgar facilities were not included in the assessment determined by the Town. The Intervenors argue that the Department decided in D.P.U. 18200 that 30% of Weymouth's property

taxes were for Old Edgar; that there is no proof to the contrary; and that the testimony of the Company's witness on the "legal issue" of whether Weymouth is taxing Old Edgar should be given little weight.

The tax bill is of no help. The Company gets a single bill covering all its property in the Town, with no identification of individual items.

The Intervenors' argument is not accepted. This record differs from that in D.P.U. 18200. There is no reason why the witness' testimony should not be given credence. He was not testifying on a legal issue, but on an independently verifiable fact within his knowledge, namely, what position the Town of Weymouth asserted in the proceedings before the Appellate Tax Board. The witness is fully capable of understanding what positions were being asserted in those proceedings, and the record shows nothing to contradict him. While it is true that the record of the Appellate Tax Board proceedings was not introduced into this record, no objection was made that the witness' statement was not the best evidence. On this record the witness' testimony is accepted. Therefore, no adjustment to cost of service should be made on account of taxes on Old Edgar.

There appears to be no dispute as to the reduction of the property tax item by $11,000 by reason of a refund from the Town of Stoneham. Cost of service is adjusted accordingly.

L. *Property Taxes on Construction Work in Progress*

The Intervenors point out that the Company added $71.1 million of plant during 1975, in addition to Mystic 7, and that much of this was CWIP during some unknown but substantial portion of the test year. They argue that the

amount of property taxes attributable to CWIP (other than Mystic 7 and Kingston Street, as to which proper adjustments were made) should be determined and removed from cost of service.

This record indicates that many cities and towns do not provide a breakdown which would make it possible to determine how the total property tax assessment in the community is allocated. There is also some testimony to the effect that municipalities do not assess CWIP except where large generating units or specifically identifiable parcels of land are involved. For these reasons, it is concluded that there is no basis to support the action suggested by the Intervenors.

It should be pointed out, however, that it is the Department's policy to disallow property taxes associated with CWIP. *Western Massachusetts Electric Company,* D.P.U. 18252 (1975). The decision we make here should in no way be construed, therefore, to contravene that policy. We have decided, in this case only, to give credence to the testimony of the Company's witness that most towns do not assess CWIP (except in unusual circumstances), and that even if such property were assessed, it would be difficult and time-consuming for the Company to make a proper allocation between the taxes on finished plant and those on plant still under construction within the constraints of the suspension period.

Our decision here should be understood, however, as fair warning to the Company that in future rate proceedings, a greater quantum of proof than appears on this record will be required to sustain the contention that CWIP is not taxed. Alternatively, the Department will accept proof that the Company has made an allocation of property taxes based upon the actual assessments made by the various

municipalities which comprise its service territory. If the Company declines to follow one or the other of these alternatives, the Department will make its own allocation based upon whatever pertinent evidence may be available to it.

M. *Depreciation on Easements*

The Company took a 3% rate of depreciation on easements in its test year cost of service, the charge amounting to $120,000. It is disallowed for the reasons stated in *Western Massachusetts Electric Co., supra.*

The Company suggests that if this depreciation expense is disallowed, an equivalent amount of the accumulated depreciation used in the calculation of rate base should also be eliminated. The suggestion is accepted.

N. *Depreciation Adjustments on Plant Added in 1975*

The Company annualized the depreciation charges on Mystic 7 and eliminated those on Mystic 1, 2 and 3 which, it will be remembered, were retired during the year. This treatment is correct and, as to Mystic 7, is in line with the way that addition has been handled elsewhere in this decision.

Furthermore, the Company annualized depreciation on net plant additions other than Mystic 7, which occurred during the year. This was done on the theory that in a normal year, a full year of depreciation would be charged on those facilities. That treatment is not correct. It is not consistent with the averaging of plant for rate base purposes. The effect of what the Company would do is to treat new plant on a year-end basis for depreciation purposes.

The Company says that this adjustment was allowed in D.P.U. 18200. This appears to be a misunderstanding of that case. What that decision says on this point is that

"depreciation expense has been increased by additions to plant other than Mystic 7" (p. 19). That is quite different from annualizing that expense. The statement of cost of service on page 29 of that decision does not show any such item. If by any chance it was included in cost of service in that case, its inclusion was error.

Accordingly, depreciation expense in cost of service and the accumulated depreciation reserve for depreciation in rate base are adjusted to eliminate the $735,000 of annualized depreciation during 1975 applicable to plant additions other than Mystic 7.

O. *Depreciation Rates*

Although no issue requiring a decision is raised, the Intervenors recommend that the Department make a careful analysis of the Company's depreciation rates. The Department is indeed concerned about this phase of the Company's bookkeeping, as it is about various other aspects of its operating costs and management policies generally. The Intervenors' suggestion is a valuable one and will be considered further as circumstances permit.

P. *Operation and Maintenance*

The Company's accounts for maintenance of boiler plant, electric plant, station equipment and general plant increased by 53%, 124%, 63.8%, respectively, from 1974 to 1975. These increases are far larger than can be accounted for by the general level of inflation. The Intervenors recommend that the increase be limited to the percentage increase in these accounts in 1974.

This analysis is useful in that it points out increases that appear excessive. The Company has justified them, in part, as a catch-up of deferred maintenance. There is no reason

to assume that 1974 embodied the permissible limit of maintenance increases. Such arbitrary limits will not be imposed. The reasonableness of expenses is a question of fact in each case. The record shows that the 1975 expenditures were made and there is no evidence indicating that they were unnecessary. On this record, they must be considered to have been substantiated.

However, there is cause for much concern as to the absence from the record of any showing of what, if anything, the Company is doing to limit expenses. The Company has been ordered to show, in its next rate application, what steps it has taken since the end of the last test year to operate more efficiently. As to maintenance, increases not caused by inflation in general price level shall be explained and, if not explained, may be rejected as not having been shown to be proper elements of cost of service.

Q. *Customer Deposits*

The Company has included in cost of service $172,000 of interest expense on customer deposits. The Intervenors argue that the Company has determined this expense by taking 6% of its total customer deposits. They say that this is likely to give an excessive result because the Company does not pay interest to customers with overdue bills.

The Company's annual return for 1975 shows that $172,000 was accrued for this liability. In the absence of a showing that such accrual is excessive relative to the actual liability, the Company's figure is accepted.

R. *Contributions*

The Company's cost of service includes $10,000 for a contribution to Citizens for Economy in Government. That organization has since discontinued its activities and is no

longer in existence. As there can be no further contributions to it, the cost of service is accordingly reduced.

There is also a $10,000 contribution to the Massachusetts Taxpayers Foundation ("MFT"). That organization is a registered lobbyist. One of its brochures, admitted into evidence in this case, is quite revealing as to the organization's activities. That brochure indicates that MTF "played a major role in developing and influencing the adoption of legislation in" more than a dozen specified areas. In addition, the brochure gives as the organization's operation strategy: "thorough research translated into sound legislative proposals or recommendations for executive action". The brochure states that, "research and legislative activities are interdependent. The staff gathers and publishes information and facts on which to base [MTF's] support or opposition to measures before the General Court".

Of course, it may be said that many civic and charitable organizations undertake lobbying activities as part of their work. But MTF, if its brochure is to be believed, is principally engaged in activities which promote "efficient, economical and responsible government" by encouraging legislation or executive action which enhances this goal and discouraging such action when it may be inimical to the organization's avowed aims. We are not persuaded that the Company's contribution to MTF was used for activities exclusive of lobbying. Indeed, it seems to us quite likely that some portion, if not all, of the contribution was used for such purposes. Money so spent by the Company is not properly chargeable to the ratepayers, and the item is, therefore, disallowed. *New England Telephone and Telegraph Company*, D.P.U. 18210 (1975).

The Company reported a total of $52,444 as lobbying expenses chargeable to stockholders during the test year. In

its Annual Report for 1975 to the FPC, however, the amount reported for such activities was $75,103. This discrepancy was not explained on the record, and we are inclined to give greater weight to the numbers reported in the Annual Report to the FPC. Accordingly, we are further reducing the Company's cost of service by $22,658 for lobbying expenses.

Intervenor, Stanley Robinson, has brought to our attention certain other alleged deficiencies in the manner in which the Company allocates time spent by its employees on lobbying activities. His remedy for those deficiencies is to have us disallow an amount equivalent to the full salary of such employees, adjusted for a 15% salary increase and doubled for employee benefits and overhead expenses. While we are sympathetic to the underlying premise of Mr. Robinson's position (i.e., that the Company has poorly accounted for its lobbying expenses), we believe that the remedy he suggests is not supported by the evidence in this case. The Company has put forth evidence that those of its employees engaged in lobbying also perform other activities for the Company, and that the expenses associated with these latter activities are properly chargeable to the ratepayers. We, therefore, will accept, in this case, the Company's allocation of employee expenses.

However, unless the Company can produce records showing the actual time spent and the tasks performed by each employee engaged in lobbying, we shall be prepared, in the next rate proceeding, to disallow all of the expenses, including salaries, fringe benefits and the like attributable to such employees.

Other suggestions made by Mr. Robinson, which would result in further deductions for lobbying expenses are not, in our opinion, supported by the record in this case. We, therefore, decline to order them.

S. *Income Taxes*

1. *Interest Expense — Short-term Debt*

In its $51.2 million interest expense deduction, the Company included $4.9 million of interest on short-term debt. It arrived at that figure by taking the average short-term debt during the year ($106 million), reducing it by the amount of secured notes issued December 31, 1975 ($23 million), reducing it further by 85/360 of the $46.7 million of preference stock issued March 15, 1975 ($11 million), and multiplying the resulting number ($72 million) by 7%, and taking 97.31% of the result as the expense allocable to the electric business.

The net effect of what the Company did is to assume a short-term debt level of $72 million. That figure is not a fair reflection of either the past or the future. At the end of 1974 short-term debt was $120 million, and at the end of 1975, it was $107 million. The projected average monthly balance for 1976 is $112 million, and the projected year-end balance for 1976 is $134 million.

Short-term debt is reduced from time to time by the issuance of long-term debt or equity securities, after which it builds up again as the Company finances new construction. It is, in other words, the initial source of financing for construction. It is consequently incorrect to assume that the issuance of securities to refinance short-term debt represents a permanent decrease in the amount of that debt.

The Intervenors' figure of $106 million is the actual 1975 average balance of short-term debt. It is close to the year-end 1975 figure, slightly below the 1974-75 average and slightly below the $109 million, which is the average of projected month-end balances for the first half of 1976.

It is ordered that $106 million be used in the income tax calculation as representing the appropriate amount of short-term debt.

Accordingly, the interest expense to be used in the income tax calculation may be derived as follows:

	(000) Amount	Rate	Expense
First Mortgage Bonds	$447,371	7.60%	$34,000
First National Bank — New York	75,000	7.75%	5,813
First National Bank — Chicago	60,000	8.55%	5,130
Secured Notes	23,000	11.25%	2,588
Short-term Borrowing	106,000	7.00%	7,420
Total Interest Expense			$54,951
Portion Allocable to Electric			97.31%
Interest Expense for Income Tax Calculation			$53,472

2. AFUDC Not Normalized

The Company has accrued AFUDC since 1960. It is accrued as income during the construction period and capitalized in the same manner as construction labor and material costs in the CWIP account. AFUDC is not realized as cash income currently, but is a reflection of future income that will be recovered over the service life of the plant. In the rate-making process, increased revenues are allowed because of the higher depreciation expense incident to capitalized AFUDC.

There are current tax benefits and future tax detriments associated with AFUDC.[8] Since 1974, the Company has been deferring or normalizing the tax benefits of AFUDC

[8] For instance, the interest expense resulting from funds borrowed for construction purposes generates current income tax deductions, while the depreciation on the AFUDC portion of plant in service generates depreciation which is not a tax deductible expense.

(sometimes hereinafter referred to as "post-normalization").

Normalization of income taxes facilitates a matching of such benefits and detriments. Through normalization, the income tax liability associated with certain expense items is allocated to the period in which the cost of that item is recovered. That is, normalization is necessary to avoid the situation in which current ratepayers get the benefit of reduced income taxes from tax benefits which more properly "belong" to future ratepayers who will bear the burden of return and depreciation once the plant is included in rate base.[9]

In the period from 1960-1973 (hereinafter sometimes referred to as "pre-normalization"), the Company accrued AFUDC without normalizing the tax benefits incident thereto. Thereafter, the Department approved the policy of normalization of income taxes. It was determined that in addition to facilitating a matching of benefits and detriments, normalization serves to improve internal cash flow, coverage of fixed charges and quality of earnings.

In this case, the Company has proposed an adjustment in its income tax calculation which purports to reflect the cur-

[9] The Company's example of the impact, absent normalization, is illustrative of this point:

Facts: AFUDC is $100; tax rate 50%, depreciation on AFUDC is not tax deductible.

Normalization: Current ratepayers provide sufficient revenues to pay future income taxes ($100), and future ratepayers provide revenues to recover the depreciation ($100).

No Normalization: Current ratepayers obtain the tax benefits and future ratepayers must generate revenues to recover depreciation ($100) and the income taxes on non-deductible depreciation revenue ($100).

rent income tax consequences of pre-normalization. This case presents an overlap of pre and post normalization tax effect on today's ratepayers.

The prophecy which the Company's witness describes with respect to future ratepayers, absent normalization (see footnote 9), has come to pass. What the Company here proposes is to require the current ratepayers to support the pre-normalization costs in addition to current normalization. In effect, the Company seeks to impose a multiple burden on current ratepayers, both the doubling effect absent normalization and the current effect of normalization.

In our view, it is an inordinate burden on current ratepayers to require them to support present normalization as well as pre-normalization costs. Therefore, notwithstanding the fact that the tax liability for pre-normalization AFUDC may in fact have arrived, we do not think it should be charged to the Company's present customers.

One may assume that the tax benefits which were not deferred by the Company in the pre-normalization period were flowed through to past ratepayers and shareholders. That today's ratepayers should now have to pay the piper for the music enjoyed by yesterday's ratepayers and shareholders hardly seems a just result. The Company's adjustment is therefore rejected.

Based on the foregoing, the net operating income may be calculated as follows:

	(000)	
Operating Revenues	$318,633	
Base Revenue Increase — Mystic 7 Portion	11,197	
Rate Increase — Hanscom Field	145	
Interest on Overdue Accounts	177	
Additional Fuel Clause Revenues	(276)	
Adjusted Operating Revenues		$329,876
Expenses		
Operations and Maintenance	$103,395	
New Bedford Lease Termination	(316)	
Sandy Pond Transmission Line	1,716	
Wage Adjustment	(446)	
Nuclear Refueling	(1,147)	
Amortization of Price Waterhouse Study	(153)	
Contributions and Lobbying	(43)	
Adjusted Operations and Maintenance		$103,006
Depreciation	$40,612	
Eliminate Depreciation on Easements	(120)	
Correct Amortization of Scrubber	(534)	
Eliminate Annualized Depreciation on 1975 Plant Additions other than Mystic 7	(735)	
Adjusted Depreciation Expense		$ 39,223
Taxes other than Income	$ 64,571	
Estimated Property Tax	(1,315)	
Taxes on Plant Held for Future Use	(195)	
Stoneham Property Tax Refund	(11)	
Adjusted Taxes other than Income		$ 63,050
Net Income before Income Taxes		$124,597
Income Taxes		$ 36,599
Net Operating Income		$ 87,998

CAPITAL STRUCTURE

A. Common Equity Balance

In calculating its cost of capital, the Company increased the common equity balance to reflect the balance of equity which would have resulted had it earned, during the test period, the 13% return on common equity allowed in D.P.U. 18200. The Company argues that because the increased rates allowed in D.P.U. 18200 were not put into effect until October, 1975, the Company did not earn on those rates for a full year and that if it had, the year-end equity would have been larger. If one adjusts revenues on the assumption that these increased rates were in effect through the year, says the Company, the effect of that adjustment on equity should also be shown.

The argument fails. The new rates are a known increase — their effect on retention of earnings is not. Investors are not guaranteed freedom from risk. Rate increases are intended to give them an opportunity for a fair return. Washington, J., in *Lynchburg Gas Co.* v. *FPC*, 336 F.2d 942, 949-50 (D.C. Cir. 1964).

To assume that a rate increase results in a particular amount of equity increase is but speculation. Too many imponderables (e.g., possible swings in the economic cycle, possible changes in maintenance policies, possible improvement in management skills or labor productivity) intervene between the rate increase and an equity increase to make the calculation a valid one.

The argument fails also because the requested adjustment would distort the relationship of rate base, revenues and expenses, and cost of capital alluded to elsewhere in this decision. The additional equity (and the return on it) is not included in the calculation which led to the rate increase granted in the earlier case. That increase was designed to provide earnings sufficient to have produced a proper return in the test year with, of course, the other adjustments found appropriate in that decision. In effect, the Company is asking to inflate artificially the equity component of the capital structure for the test year.

B. Interest Rate on Chicago Note

The interest rate on the First National Bank of Chicago Note presents a contested issue. The interest rate fixed in the Note is 115% of the Bank's prime rate, plus 0.5%.

The Company based its calculation on a 7% prime rate, which results in a total interest cost of 8.55% (7% plus 1.05% plus 0.5%. The Intervenors argue that there is differing evidence by the Company's witnesses as to the current rate of interest, and they take the position that the interest rate should be based on a prime rate of 6.75%, which they describe in their initial brief as the then current rate. This would result in an interest cost of 8.26% (6.75% plus 1.01% plus 0.5%).

The prime rate varies considerably from time to time. Satisfactory predictions of its course are hard to come by. During 1975 the prime rate ranged from 10.25% to 7%. In January 1976, it went from 7% to 7.25%, and at the close of the hearings it was at 6.75%.

Nothing in this record shows with any degree of conclusiveness that the prime rate for 1976 will vary greatly from 7%. In other circumstances, it might be appropriate to adjust the interest rate of the Note to take account of more recent developments. To do so on this record gives no greater assurance of probable accuracy than to use the 7% figure, which was the current figure on February 2, 1976, when the Company served its supplemental testimony.

In D.P.U. 18200, the Department found that the use of the average of the year-end prime rate and the current prime rate shown by the record would recognize the variable nature of the rate and the recent upward trend. Here the use of 7% recognizes the decline from 1975 levels without using the low advocated by the Intervenors. On the whole, it is a reasonable reflection of the record, and is accepted.

C. Investments in Nuclear Subsidiaries

There is also an issue as to the inclusion, in the common equity balance, of $6.4 million representing the Company's investments in the Yankee Atomic Power Co. ($2.0 million) and the Connecticut Yankee Atomic Power Co. ($4.4 million).

In an earlier rate case, D.P.U. 17273 (1973), the Department found the inclusion of these investments in rate base improper, but did not order their exclusion from common equity balance. Therefore, they have been included as before. The Intervenors ask their exclusion, arguing that because the investments are not part of the rate base and the earnings on them are not part of operating revenues, they should be deducted from common stock equity.

The effect of such treatment would be to reduce only the common equity portion of the capital structure. Since common equity is entitled to the highest percentage return of the elements in the capital structure, such treatment would reduce the overall rate of return.

The Company contends that there is no showing that the nuclear investments were made entirely from common equity, and that it is more reasonable to assume that they were financed with both debt and equity funds in the same proportion as the debt and equity ratio which prevailed at

the time of the investments. Therefore, if these investments are to be eliminated from the capital structure, they should be eliminated *pro rata* from the elements of the capital structure, rather than solely from common equity.

We agree with the Company's position in this regard. The record, however, does not disclose what the debt-equity ratio was at the time of the investment. Elimination on the basis of the current debt-equity ratio would result in no significant change in the capital structure.

The difference between the original investment ($4.1 million) and the current investment ($6.4 million) is $1.3 million. That difference is attributable to the unappropriated and undistributed retained earnings of the subsidiaries. It is, thus, attributable to common equity, rather than proportionately to debt and equity. Hence, the elimination of this $1.3 million from the common equity component of the capital structure is not inconsistent with the foregoing discussion. Such adjustment, as argued by the Intervenors, is appropriate because the Company has not included the earnings of the nuclear subsidiaries in operating revenues, and therefore rate-payers should not be required to support a return on that portion.

D. Capital Stock Expense

The Company has included in its proposed capital structure the unamortized balance of capital stock expense, amounting to $71,000 for the preferred stock, $272,000 for the Series 1 preference stock, $190,000 for the Series 2 preference stock and $478,000 for common equity.

This means that the Company has inflated these components of the actual capital structure for the unamortized balance of capital stock expense. As with the investments in the nuclear subsidiaries, the effect is to increase the

amount and hence the return for those portions of the capital structure which are entitled to the higher rates of return. That is, it increases overall rate of return as derived from the weighted average of the cost components. The Company contends that this adjustment is warranted because the annual amortization is not charged to ratepayers, but is absorbed by the shareholders.

This expense is not properly includable as a part of the capital structure as audited and reported to shareholders. Ratepayers should not be required to pay a return on it, nor should it influence the rate of return they pay. The Company's invested capital is not the amount investors pay for their securities, but the amount received by the Company after the expenses of flotation. It is this lesser amount that is used to provide service, and that is what the capitalization should reflect.

RATE OF RETURN

Seven witnesses presented testimony bearing on the cost of capital and fair rate of return. The Company's overall cost of capital calculations were offered by its Treasurer, Ralph Kelmon. He relied, for the appropriate cost of equity figure, on the testimony of Zvi Benderly and Charles A. Benore. Mr. Benore and Robert R. Nathan also testified on current securities' markets and the Company's ability to finance. Ralph E. Miller and Kenneth W. Seeds testified as to rate of return on behalf of the Intervenors. Stanley U. Robinson, appearing *pro se,* presented a mathematical criticism of Mr. Benderly's testimony.

The testimony of Mr. Nathan is that the trend of energy, demand and use be a rising one in the United States, in Massachusetts and in the Company's service area. A lessening of capacity expansion is seen for the short run, but not

over a longer term. He points out the huge and rapid increase in fuel prices during recent years and its dramatic effect on the Company's residential consumers' bills, where the fuel adjustment charge went from $1.58 per year in 1970 to $80.88 in 1974. Cost of new capacity has also increased markedly.

Bond and preferred stock yields have risen in recent years, public utility securities have declined, and the Company's earnings coverage of fixed charges and preferred dividends is down from earlier years (though the improvement shown in 1975 is expected to continue in 1976, according to the Company's president, Thomas J. Galligan, Jr.) There has been a decline in the Company's ability to generate construction funds from its internal operations compared with the necessity for turning to the capital markets for floating new securities. The ratings given to the Company's senior debt by the principal rating agencies have declined from Aaa in 1969 to Baa and BBB in 1974.

Mr. Benore first determined the spread between the return on the Company's common stock during a 1960-65 "base period" and the return on risk-free investments, as represented by U.S. Government long-term bonds. He concluded that the Company is entitled to a rate of return at least 7.2% above the current rate on U.S. Government bonds, thereby reaching a recommended rate of return of 15.5%. He pointed out in the course of his analysis that the Company presents greater risks than do most public utilities.

He next compared the return potential of the Company's shares to that of industrial shares generally. In our view the comparison is of minimal value for this purpose because of the different nature of the risks involved. A comparison designed to show rate of return must be between securities

or groups of securities sharing comparable risks. *FPC* v. *Hope Natural Gas Co.*, 320 U.S. 591 (1944). No such comparability is shown here.

It is true that a rate of return must be fixed with regard not only to risks of comparable companies but also to comparative levels in the capital market. However, it is not enough to show that other companies use the same capital markets as the company under comparison. That alone does not show that their competition for the investor's dollar is on all fours with that of the company concerned. It is more appropriate to limit such a comparison to the particular industry, especially where, as here, broad markets exist for large amounts of securities of many companies in the industry.

Mr. Benore's third test consisted of a survey of investment attitudes of 110 large American financial institutions which showed, he said, that if an A-rated long-term bond yielded 10%, two-thirds of the respondents to the questionnaire would require a total return of 15% or more on that company's common stock before they would invest in it. Since the Company's bonds are rated one step lower than that, Mr. Benore concluded that 15% to 15½% would be an appropriate allowance for the Company's common equity. His final estimate allowed for the fact that market conditions had improved between the time of preparation of his testimony in November, 1975 and his appearance on the stand.

The method has certain flaws. First, the witness assumes that those who did not respond to the questionnaire feel the same way as those who did.[10]

[10] It is not clear what percentage responded. The testimony says responses were received from "61 of the survey population" of 110, but apparently 110 questionnaires were sent to 125 institutions, as some of them had common management.

Second, he assumes that the answers show the action that those funds would take under actual conditions. If such a survey is responded to in the hope that it will be put to some practical use as in this case, it is plainly in the interest of the respondents to assume the existence of the stated conditions and to come out with as high a figure as appears to them reasonably possible.

Third, it assumes that the large financial institutions responding to the survey represent a cross-section of investor demand for public utility equity securities.

Fourth, and perhaps most important, the conclusions to be drawn from the answers need not be those drawn by the witness. He appears to assume that because two-thirds of the respondents say they would require a return of 15% or higher, such a return is the minimum fair return for a company with the assumed characteristics. That need not be so.

The issue is not one to be decided by a two-thirds vote, or even a majority vote, of an arbitrarily selected group of financiers. A more pertinent question is whether or not the marginal demand for securities of the assumed type will be enough to float them at the assumed rate of return. One can readily visualize a public utility stock issue of that type being fully subscribed by the 12% of the institutions which say they would require a return of only 13%. Certainly, nothing in the survey excludes that possibility.

The testimony of Mr. Benderly envisions the Company as being in a serious position as to future financing. He states that if the Company generates internally only $47 million a year (after dividends) from its operations, and if its construction expenditures are $147 million a year, it must tap the capital markets for the remaining $100 million,

and that this must be done by the sale of common stock.[11] He warns that further cutbacks in the construction program may result in future inability to provide adequate service.[12]

He presents an elaborate statistical model based on a comparison of 94 electric utilities, using a technique of stepwise multiple regression analysis. His purpose was to show the factors which most strongly influenced the ratio of price to book value, his point being that a public utility should have a rate of return which would cause its shares to sell moderately above book value so that it could sell more shares without diluting the equity behind those already outstanding.

He considered and tested 46 variables which, in his opinion, plausibly might affect price-book ratios. His stepwise multiple regression method resulted in the selection of five factors that showed up as significant. They are the rate of return on common equity,[13] the percentage of reported earnings derived from AFUDC, oil as a percent of

[11] It is interesting to note that he attributes the sharp increase in public utility stock prices during the early part of 1975 to an improved earnings outlook stemming in part from general appreciation of the fact that reduced construction programs may relieve financial pressures on the utilities. The Department agrees that reduced construction may well relieve financial pressures on the Company.

[12] The May 5, 1976 prospectus for the sale of preference stock shows (at p. 35) that $57,130,000 of a $110,934,000 construction program for 1975 was obtained from outside sources. Construction expenditures for 1976 were estimated at $113,000,000, not including $6,000,000 of AFUDC (Id., p. 5). Thus, Mr. Benderly's picture of the Company's relying on the capital markets to the extent of $100 million per year does not accord with current reality.

[13] He used three measures of rate of return: The 1974 rate of return on common equity, the square of the 1973 rate of return on common equity and the square of the 1975 rate of return on common equity as estimated in May, 1975 by Value Line.

fuels consumed, use of flowthrough accounting for liberalized depreciation, and the ratio of dividends to cash flow.

His analysis leads him to conclude that a 15% rate of return is the least that is necessary for the shares to sell about 11% above book value.

Before commenting generally on Mr. Benderly's testimony, it is convenient to take up that of Mr. Robinson, a mathematician and a computer consultant. Mr. Robinson disagreed with Mr. Benderly's procedures, both in outline and in detail.

Mr. Robinson presented, but did not endorse, a method using Mr. Benderly's techniques which showed a fair rate of return of 11.77%. This was a decline of 1.17 points from the 12.94% Mr. Robinson testified to in D.P.U. 18200. He states that Mr. Benderly's result is a decline of 1.25 points compared with that witness' evidence in the earlier case.[14]

However, Mr. Robinson, as a mathematician, does not approve of the use of the stepwise multiple regression analysis as a proper way to determine rate of return. He points out that a complex body of data may be subjected to a variety of regression models, all of which appear to have an excellent fit to the data and which are unexplainably different in their behavior. He describes the technique as a statistical procedure which is not firmly established in the sense that it necessarily leads to a single correct result.

He testified to two reasons for not using the Benderly model. First, Mr. Robinson had another model that fit the data better. Second, he believed it to be bad mathematical

[14] Objection was made to the receipt of Mr. Robinson's evidence on the grounds that he is not a qualified rate of return expert. He agrees, and his results in that respect are not relied on. His evidence is admissible, however, for its mathematical critique.

procedure to adopt a model based on the absence of certain data (in this case, a dividend payout ratio) that appeared appropriate, without first exploring the use of that data.

On the whole, Mr. Robinson's testimony is sufficient to cast doubt on the results derived by Mr. Benderly. The purely mathematical approach is rejected for other reasons as well. The Department adheres to its statement in *New England Telephone & Telegraph Co.*, D.P.U. 17441 (1973) at p. 9:

> "there is no irrefutable testimony, no witness who has not made significant subjective judgments along the way to his conclusion, and no number that emerges from the welter of evidence as an indisputable 'cost' of equity.

This belief is supported by many precedents, as for instance in the classic case of *Bluefield Water Works* v. *P.S.C. of Virginia*, 262 U.S. 679, 692 (1922):

> "What annual rate will constitute just compensation must be determined by the exercise of a fair and enlightened judgment, having regard to all the relevant facts.

The principle is well stated in the present case by the Company's own learned witness, Mr. Nathan:

> "Regulators are as capable as other public and private officials of looking to the future and making decisions that are appropriate for the conditions anticipated. Some measure of judgment will always be needed to evaluate data, make analyses and render expert opinions about the underlying forces at work and the prospects ahead. The parties involved in the proceedings should present evidence and views that will help the regulators to make sound decisions. Experts cannot serve as substitutes for regulators' judgments, but they can be helpful in the formulation of informed judgments. The existence of regulatory bodies derives from the need for informed judgment. Judgment goes to the very heart of the regulatory process.

If mathematics were the key to the regulatory process there would be no need for a regulatory agency or, for that matter, a reviewing court. A computer and a repairman would suffice.

There are strong reasons in this case why that is not so. One of the factors tending to shed light on the Company's ability to finance is the proviso imposed on it in connection with the sale of its preference stock (first series) in 1975. The May 5, 1976 prospectus for the sale of the second series shows that in each year commencing in 1980 the Company is required to offer to buy back not more than 200,000 shares of the first series at not over $10 per share if, during the twelve months ended February of that year, there was a period of 45 consecutive days during which the last reported sale price was less than $10 per share.

Although this provision was not imposed on the Company in connection with the 1976 sale of the second series of preference stock, it certainly is an indication that its financial position was not regarded with equanimity by the investment community as recently as last year. The effect that such a situation may have on the price of the common stock cannot be favorable, but neither can it be mathematically quantified. No regression analysis will reflect it because it is not comparable to anything in most, and probably not in any, of the companies used for comparison.

Another intangible not capable of mathematical analysis is even more significant. The quality of management cannot be measured by a regression analysis or any other mathematical technique. Yet there can be no doubt that it is considered by investors.

We now turn to a consideration of the evidence of Mr. Seeds and Mr. Miller, both of whom testified in opposition to the Company's position on rate of return. Mr. Seeds

used three methods of arriving at cost of equity capital, the discounted cash flow or dividend yield method, the earnings-price ratio method and the comparable earnings method.

He used 15 companies for comparison for his comparable earnings analysis. They appear to be roughly comparable to the Company in size and operational characteristics. The Company's bond ratings are among the lowest of the group. He assumes that a rate of return at about the average for the group would raise the Company's return to the point where it would in time qualify for an improved rating.

The comparison indicates that the risks faced by the Company are generally higher than those of the comparison companies. By the use of the three methods mentioned above, the witness arrives at an average return of 12.08% for the Company, compared with 12.04% for the comparison companies.

Mr. Miller offered a comparison with 69 electric utilities[15] as well as an analysis of the Company itself. He shows that from 1961 through 1968 the average market price of the Company's common stock ranged from 1.48 to 1.95 times its book value. He attributes the large spread to earnings on common equity in excess of the cost of equity capital. In view of the inflationary trends since that time and the increases in costs, particularly fuel costs, which have worked considerable change in the industry picture generally, it does not seem wise to place much dependence on so old a period for present purposes.

He uses basically a discounted cash flow approach. This approach is based largely upon the presumed evaluation by a hypothetical potential investor of the dividends he is likely

[15] Originally 84, but he updated his study, leaving out 15 because of the unavailability of the later data as to them.

to receive in the future if he buys common shares in the company involved. The witness believes that because there is a tradition in the electric industry of at least maintaining the current dividend, its maintenance may be taken as a minimum for the future, and investors tend to expect growth over time.

The expected stream of future dividends can be mathematically related to the purchase price by determining the discount rate at which the expected stream of dividends equals that price, so that the average return equals the current dividend yield plus the expected rate of dividend growth. If the stock sells above the price so determined, potential investors will tend to place their money elsewhere. If below, they will be attracted to it.

The mean dividend yield of the 69 companies on which the analysis is based was 8.6% during the January-March, 1976 period, with a low of 6.2% and a high of 10.4%. The growth rate in tangible book value per share of common stock, which the witness uses as a measure of investors' expectation of future growth, had a mean of 2.3% for the one-year growth from 1974 to 1975, 1.1% for the two-year growth from 1973-75, 2.1% for the three-year growth from 1972-75, 3.3% for the five-year growth from 1970-75 and 4.0% for the ten-year period 1965-1975.

The witness finds a weighted average of 2.6% to be a reasonable approximation of mean growth rates of the book values per share for the 69 companies. This factor is important as indicating the "plowback" of earnings, which presumably will eventually lead to higher dividends.

The discounted cash flow method requires that the best estimate of expected future dividend growth be added to the current dividend yield to determine the estimated cost of common equity capital. Mr. Miller finds an average of

2.7% of expected growth and 9.2% current yield, a total of 11.9%, which he takes as the cost of common equity capital for the companies used for comparison. He considers this a better estimate of the cost of common equity capital for any of the companies than the same method applied to that company alone.

If the same method is used for the Company, his resultant figure is only 9.6%, comprised of a current dividend yield of 10.4%, less a negative weighted growth in book value of 0.8%

Such a result is difficult to imagine. Even the witness does not accept the result of his own calculation but uses further regression analyses which result in his taking 11.2% and 11.5% as the limits of a range defining the best estimate of the Company's cost of common equity.

One of the more useful of these calculations is the one relating to the Company's capital structure. It indicates that the Company's cost of equity capital is about 0.3% higher than the average for the 69 companies because of its lower-than-average equity ratio.

Mr. Miller's statement that the average for the 69 companies gives a better estimate of the cost of common equity capital for any of the companies than the same method applied to the company alone is not useful. The 69 companies cover a wide range as to every test that is applied to them. To ignore these variations by suggesting that the average can reasonably be applied to each of the companies is a method that would appeal only to Procrustes. Individual differences are not to be so lightly disregarded.

Evidence put into the record by the Company indicates that one out of every eight financial institutions would be attracted at a 13% return to the common stock of a public utility whose A-rated bonds were selling to yield 10%. The

Company's bonds are rated one step lower than this. The evidence at that time showed that bonds comparable in grade to those of the Company had recently sold to yield 11¾%.[16] Since then money market conditions have eased materially, giving reason to believe that the Company could obtain equity capital at a cost no greater than 13%

This is particularly true if, as the Company's evidence indicates, the trend of energy demand will be a rising one. The increase in the first quarter of 1976 was not enough to prevent a decline in net income compared with the year before, but there was improvement in the Company's ability to generate funds internally.

Net income for the quarter was $4.7 million against $6.0 million the year before. However, this $1.3 million decline was more than accounted for by a decrease of $2.3 million in AFUDC, which does not represent an inflow of cash, and an increase of $1.8 million in depreciation, which does. (These changes are largely attributable to Mystic 7 being on line this year but not in the earlier period.)

In addition, according to the Company's prospectus of May 5, 1976 at p. 13,

> The Company estimates that the additional revenues from the 1975 retail rate increase will be reported during 1976 in the following proportions: first quarter, 15%; second quarter, 15%; third quarter, 45%; and fourth quarter, 25%.

Thus, the results of operation to date reflect less than half of the expected effect of the rate increase granted in D.P.U. 18200.

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[16] The bonds mentioned by the witness were those of Georgia Power Company, whose long-term 9⅞% bonds now sell around par, yielding almost 2% less than those to which the witness referred. The findings herein as to return on common equity, however, do not rest on this comparison. The more general improvement in money market conditions is considered more significant.

The Company received $38 million from the sale of preference shares in May, 1976. Last year, $53.8 million of the funds for the construction program were internally generated (see footnote 12). The improvement in the first quarter warrants the prediction that financing of the 1976 construction program will be handled without inconvenience.

All of the witnesses agree that the Company's cost of capital has gone down since the last case.[17] As to this, the general evidence on money market conditions is supported by the Company's demonstrated ability to obtain capital on better terms.

The decision in D.P.U. 18200 shows the last issue of securities to have been $46.7 million of preference stock in March, 1975, at a cost to the Company of 12.59%. In May, 1976, the Company was able to sell 2,675,000 shares of a second series of preference stock at a net price of $14.33 per share. The dividend is $1.46 per share, so that the net cost to the Company was only 10.19%. Furthermore, the onerous requirement, present in the first series, that the Company must, in certain circumstances, buy back the shares at $10 per share beginning in 1980, is absent from the terms of the second series.

On the other hand, the Company's sales of securities senior to the common stock have resulted in a more heavily pyramided capital structure. This lowering of the percentage of common equity in the total capitalization is a factor tending to raise the cost of equity capital.

The latest figures presented by Mr. Seeds show the Company's common stock to rank last among the 16 utility stocks that are compared (including that of the Company) in ratio of market prices to book value, next-to-last in earnings as a percentage of book value, and highest in dividend yield. Its common equity was eleventh highest of the sixteen, viewed as a percentage of total capitalization. The Company's growth rate in units sold was the slowest of any.

[17] The rate of return allowed on common equity in D.P.U. 18200 the Company's last general rate proceeding, was 13%.

The Company's earnings, according to Mr. Seeds' revised tabulation, were 10.54% of price, using 1975 earnings and the year-end price, which is virtually unchanged at the present time. The range of those percentages for the 16 companies is from a low of 8.84% to a high of 15.24%. An earnings yield of 13% would be towards the high side of the range (between the fifth and sixth highest). It is reasonable to assume that common shares can be sold at a net cost of about 19 in present conditions, which would provide a 13% return on 1975 earnings per share. This would permit a sale at 15% below the assumed market value of 23⅜ and allow for 5% of the sale price for expenses.

As to the Company's ability to attract common equity capital, we are less inclined than most of the witnesses to base our calculation on book value, though it has been taken into consideration. The claim of one of the Company's witnesses is that to sell shares below book value at any particular time would likely lead to a situation in which investors will not buy the stock at any price. However, the witness mentions no case in which this has occurred, and we know of none. Generally, investors act on a comparative risk basis. Their ideas of comparison may vary widely from investor to investor, but a free market provides a consensus.

The Department's function here is not to protect past investors against dilution. It is to fix rates at the lowest competitive level that will yield a reasonable return and permit the Company to obtain necessary capital.

The return on book value of the companies chosen for comparison ranges from a high of 13.41% to a low of 7.64%, with the Company at 7.84%, or next to the lowest. This 7.84% was the figure for 1975, and it will be remembered that in D.P.U. 18200 the Company was allowed a 13% rate of return on common equity. The rates fixed in D.P.U. 18200 were in effect for only two months of 1975. Moreover, failure to reach the allowed 13% level is not necessarily entirely attributable to factors outside the control of management.

In any event, it is evident that a 13% rate of return is reasonable when compared to companies facing similar risks. Were the Company to earn that percentage on its book value per share, its earnings would leap to over $4.00 per share and its place in the ranking as to return on book value would go from 15th out of 16 to second.

It is not the place of a regulatory agency to assure that a company will earn any particular amount. A return allowance

> ***might be compared with a fishing or hunting license with a limit on the catch. Such a license does not guarantee that the holder will catch anything at all; it simply makes the catch legal (up to a specified limit) provided the holder is successful on his own efforts.[18]

The favorable economic outlook gives the Company an opportunity to improve its past showing. How much the management makes of this opportunity the future will reveal. A 13% return on common equity is not only reasonable in comparison to concerns facing like risks but it is adequate to attract investors to the common shares under present conditions. That is, it is enough not only for

[18] Welch, *Cases and Text on Public Utility Regulation,* 478 (Rev. ed. 1968).

operating expenses, but for capital costs and to attract capital as well. That is all that is required.

Based on the foregoing, we conclude that 13% is a proper return on common equity.

Accordingly, the overall rate of return for the Company is calculated as follows:

	(000) Amount	% of Total	Cost	Composite Cost
First Mortgage Bonds	$ 447,371	41.62	7.60%	3.16
Note — Firt Nat'l Bank of New York	75,000	6.98	7.75	.54
Note — First Nat'l Bank of New Chicago	60,000	5.58	8.55	.48
Secured Notes	23,000	2.14	11.25	.24
Preferred Stock	82,929	7.72	6.66	.51
Preference Stock (#1 Series)	46,378	4.31	12.66	.55
Preference Stock (#2 Series)	38,143	3.55	10.24	.36
Common Equity	302,059	28.10	13.00	3.65
Total	$1,074,880	100.00%		
Composite Cost of Capital				9.49%

REVENUE DEFICIENCY

In conclusion, the revenue deficiency may be calculated as follows:

	(000)
Rate Base	$986,692
Return	9.49%
Revenue Requirement	93,637
Net Operating Income	87,998
Return Deficiency	5,639
Income Taxes Thereon (1.056768)	5,959
Revenue Deficiency	11,598
Retail Allocation (at 94.5%)	10,960

RATE STRUCTURE

As previously indicated, the Department has severed the rate design phase of this case. That phase has not yet been concluded, and it appears that it will not be concluded prior to September 1, 1976, the expiration of the statutory suspension period.

Pending the resolution of the rate design phase, the Company is directed to allocate the increase granted herein by applying it on a uniform percentage basis to the existing rate schedules approved in D.P.U. 18200. We continue the exemption of the first 384 kilowatt hours of usage as ordered in D.P.U. 18200.

REQUESTS FOR RULINGS

The Company has filed 41 Requests for Rulings. We grant Requests numbered 1, 2, 3, 4 and 20. As to the other Requests, we find that they are fully treated elsewhere in this Order.

ORDER

Accordingly, after due notice, hearing, investigation and consideration, it is

ORDERED: That M.D.P.U. Numbers 311 through 327 filed by the Company on October 17, 1975, be and hereby are disallowed; and it is further

ORDERED: That the Company may file new schedules of rates and charges designed to produce additional gross annual revenues of $10,960,000; and it is further

ORDERED: That the new schedules shall be designed so as to apply the increase granted herein on a uniform percentage basis to the existing rate schedules as approved in D.P.U. 18200; and it is further

ORDERED: That such new schedules shall be effective pending the resolution of the rate design portion of this case; and it is further

ORDERED: That the new rates shall become effective as to power consumed on and after the date hereof, not earlier than seven days after the filing thereof, together with supporting data demonstrating that such schedules are in compliance with this Order; and it is further

ORDERED: That as to all matters treated herein, except rate design, this Order shall be final.

By Order of the Department,

A true copy
ATTEST:

HAROLD J. KEOHANE
Chairman

/s/ HAROLD J. KEOHANE
HAROLD J. KEOHANE
Chairman

/s/ EUNICE P. HOWE
EUNICE P. HOWE
Commissioner

/s/ REGINALD C. LINDSAY
REGINALD C. LINDSAY
Commissioner

Appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the order of the Commission be modified or set aside in whole or in part.

Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. (Sec. 5, Chapter 25, G.L., Ter Ed. as most recently amended by Chapter 485 of the Acts of 1971).

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

September 30, 1975

D.P.U. 18200

Investigation by the Department on its own motion as to the propriety of the rates and charges set forth in the revised pages of the tariff filed by the Boston Edison Company.

D.P.U. 18200-A

Investigation by the Department upon its own motion as to the propriety of the request of Boston Edison Company for approval by the Department of Public Utilities of Emergency Interim Rate Relief in the amount of $47.700 million in additional revenues by means of a uniform flat percentage surcharge to be applied to all customers' bills.

APPEARANCES: Ropes & Gray, (by: Edward B. Hanify, Esq., and William G. Meserve, Esq., of counsel.) 225 Franklin Street, Boston, Massachusetts.

Thomas E. Capps, Esq., General Counsel and Victor W. Kazanjian, Esq., General Counsel and John J. Desmond, III, Esq., Associate General Counsel, 800 Boylston Street, Boston, Massachusetts, for Boston Edison Company.

Francis X. Bellotti, Attorney General, (by: Paul K. Connolly, Jr., Lindsay Johnson, Special Assistant Attorneys General, and Charles Gamer and Michael Meyer, Assistant Attorneys General.) State House, Boston, Massachusetts, for the Attorney General and the Massachusetts Consumers' Council.

Harold S. Trimmer, Jr., General Counsel, and Maurice J. Street, Assistant General Counsel, (by: Clinton P. Swift, Esq., and John J. Cassidy, Esq., of counsel,) 18th & F Street, Washington, D.C., 20405 on behalf of the Federal Executive Agencies.

APPEARANCES: (Continued)

Anthony P. Sager, 698 Massachusetts Avenue, Cambridge, Massachusetts, for the Citizens' Action Program on Energy.

Andrew J. Newman, Esq., Guterman, Horvitz, Rubin & Rudman, Three Center Plaza, Boston, Massachusetts 02108, for Stastreet Trust, et al.

Philip J. McLellan, President of the American Association for Concerned Investors, 28 Main Street, Keene, New Hampshire 03431.

Nutter, McClennen & Fish, (by: Peter L. Brown, Esq., and Laurence M. Johnson, Esq.,) 75 Federal Street, Boston, Massachusetts, for the General Motors Corporation.

Norman C. Ross, Esq., Assistant Corporation Counsel, for the City of Boston and Boston Consumers' Council, Boston City Hall, Boston, Massachusetts.

William S. Abbott, Esq., Plymouth County Nuclear Information Committee, 28 State Street, Boston, Massachusetts.

Stanley U. Robinson, III, 9 Wheelock Road, Wayland, Massachusetts, pro se.

Torgeir K. Kvale, pro se.

INTRODUCTION

On November 12, 1974, Boston Edison Company ("Company") filed its M.D.P.U. Numbers 277 through 293. The operation of the rates and charges stated therein were suspended by the order of the Department, pending investigation, until October 1, 1975, or until further order of the Department. Public hearings were held on 43 days between December 17, 1974 and August 22, 1975. The Completed record consists of approximately 6,000 pages of testimony and numerous exhibits.

The total revenue increase sought was more than $70 million which represented an increase of 20.8% over existing rates. The allocation of that increase among the various classes of customers, is summarized on the following table:

	Rate Schedule	Present Rates (1)	Proposed Rates (2)	Increase $	Increase %
A-1	Church Rate	$ 733,061	$ 817,100	$ 84,039	11.5
A-2	All-Electric School and Church Rate	2,858,426	3,079,804	221,378	7.7
B	Residence Rate	113,133,623	134,280,050	21,146,427	18.7
C	Apartment House Rate	2,960,856	3,679,356	718,500	24.5
C-1	All-Electric Apartment House Rate	3,493,882	3,990,744	496,862	14.2
D	Residence Heating Rate	163,342	188,367	25,025	15.3
E	Street Lighting Rate	7,701,402	10,368,431	2,667,029	34.6
E-1	Street Light, Traffic Signal and Fire Alarm Rate	452,292	601,700	149,408	33.0
F	Outdoor Lighting Rate	658,353	779,546	121,193	18.4
G-1	General Service Rate	36,915,345	43,263,344	6,347,999	17.2
G-2	General Service Rate	115,095,470	141,459,362	26,363,892	22.9
G-3	General Service Rate	41,965,284	51,863,072	9,897,788	23.6
H	Miscellaneous Energy Rate	3,139,062	3,923,336	784,274	24.9
J	Space Heating Rate	3,036,169	3,539,679	503,510	16.6
K	Multiple Housing Rate	2,245,744	2,644,926	399,182	17.7
L	Water Heating Rate	3,022,773	3,575,087	552,314	18.3
		$337,575,084	$408,053,904	$70,478,820	20.8
	Special Contracts	5,977,417	6,961,766	984,349	16.5
		$343,552,501	$415,015,670	$71,463,169	20.8

(1) Calculated by applying rates (including fuel clause) effective September 1, 1974 to actual sales for year ending July 31, 1974.

(2) Estimated annual revenues based on year end July, 1974.

In early March, 1975, the Department of Public Utilities was re-organized by act of the legislature, and the seven part-time commissioners were replaced by three full-time commissioners on March 31, 1975. On May 9, 1975, the Company, having completed its direct evidence, filed a petition for interim relief in the approximate amount of $48 million annually, and contended that no further hearings were necessary to resolve the interim petition. At that time, the record consisted of several thousand pages of testimony of the Company's witnesses, most of which testimony had not been heard by the new commissioners. No intervenor had had the opportunity to put in a direct case.

The filing of a petition for interim relief in the midst of a hearing on a permanent rate increase is unprecedented before this Department. Several intervenors objected strenuously to the Company's proposition that they should not be heard, citing among other arguments, their desire to present witnesses and their objections to the form of the interim rate increase, namely, a uniform percentage surcharge on all customer bills. Some intervenors sought to be heard on the basic question of the appropriateness of interim relief in light of the Company's concession that it faced no emergency. Compare *Fitchburg Gas & Electric Company,* D.P.U. 18237 (May 21, 1975); *Western Massachusetts Electric Company,* D.P.U. 18252 (June 30, 1975); *Boston Gas Company,* D.P.U. 18264-A (July 30, 1975).

The Company further contended that even if a hearing on its interim petition were required, it would not be necessary to give the usual twenty-one day statutory notice which provides the public an opportunity to be heard. G.L. c. 164, § 94. The Department determined that such notice was proper in the interim case.[1]

[1] Indeed after such notice was given, one new party petitioned to intervene in the interim proceeding.

The cross-examination and testimony thereafter were material to both the interim and permanent rate proposals. Upon motion of the Company, allowed by the Department, the records in the two cases were consolidated and this order is final with respect to both cases.

This proceeding is perhaps the most complex ever to come before the Department. A number of extraordinary adjustments have been proposed by the Company, among them the inclusion of compensating balances in rate base, the normalization of the equity portion of AFUDC, and the inclusion of its Mystic 7 generating station in the rate base although it was not placed in service during the test year. Eleven separate parties participated in the case. They contested over thirty adjustments to rate base and cost of service. Our decision on each adjustment required a series of complex, compensating calculations. In addition, the parties contested the appropriate rate of return and rate structure for the Company.

FAIR RATE OF RETURN

Capital Structure

In *New England Telephone & Telegraph Company* v. *Department of Public Utilities,* 1971 Adv. Sh. 1613, the Court instructed the Department that fairness required the use of the most current capital structure in the calculation of cost of capital, taking into consideration post-test year issues, to the extent that they might be imminent. In the determination of the appropriate cost of debt and the interest expense to be used in the calculation of federal income taxes, which are treated subsequently in this order, the same principle has been followed. No evidence of an impending issuance of securities has been presented. Ac-

cordingly, the capital structure which furnishes the basis for the determination of the cost of capital consists of all outstanding securities of the Company as follows:

Title	Amount
Mortgage Bonds	$ 447,571
Note — First National City Bank of New York	75,000
Note — First National Bank of Chicago	60,000
SUBTOTAL	$ 582,571
Preference Stock	46,650
Preferred Stock	83,000
Common Equity[3]	304,416
SUBTOTAL	$ 434,060
TOTAL	$1,016,637

Cost of Debt

The Company's first mortgage bonds and its note payable to the First National City Bank of New York are subject to fixed rates of interest. However, the note to the First National Bank of Chicago is at a variable rate of interest based on 115% of the prime rate from time to time plus 0.25%. The prime rate has varied significantly during 1974 and 1975, and the parties have advanced conflicting contentions as to the appropriate rate to be used in calculating the cost of long term debt. They range from 12.45%, advanced by the Company's witness, based on the average rate

[3] Stastreet contends that the amount of common equity should be reduced by the Company investment in nuclear facilities. We find that on this record, it is inappropriate to make this adjustment.

during 1974, to 9.7%,[3] proposed by the Attorney General and the Massachusetts Consumers' Council, which reflects an 8% prime rate, slightly above the prime rate at the close of the hearings. Between these positions, is the witness for the intervenor, Stastreet Trust, et al. (Stastreet), who argues that the year-end prime rate should be used, resulting in a cost of 11.79%.

In our judgment, a cost of debt, effective during 1974, is not an appropriate basis for determination of a fair rate of return which will be applied currently, especially in the light of the broad range between high and low. For the same reason, the rate at December 31, 1974 should not have special significance. On the other hand, the suggestion that we should adopt the current rate takes no account of the ample evidence of the instability of the prime rate. Indeed, after a marked decline from the year-end high, the most recent trend of the rate has been upward.

In our view, the use of the average between the year-end prime rate and the current prime rate, as testified to by witness Kenneth J. Seeds, recognizes the likelihood of variation and the recent upward trend. We find, therefore, that a cost of 8.625% of the variable rate interest note reflects the most current conditions, allowing a margin to take account of the upward trend in the rate. This results in a cost for the note of 10.17%.[4]

Cost of Equity

This case presents another chapter in the history of attempts by regulated companies and intervenors alike to

[3] It would appear that this figure should be 9.45%, calculated as follows: 8% x 115% + .25% = 9.45%.

[4] (10.25% + 7%) ÷ 2 = 8.625%
8.625% x 1.15 = 9.918% + .25% = 10.168%

persuade this Department that the determination of cost of equity can be made on a wholly rational basis. But, as we stated in *New England Telephone & Telegraph Company,* D.P.U. 17441, June 25, 1973,

> The desire to capture this elusive concept and subject it to objective verification has led to ever more esoteric theories, more complicated calculations, and more voluminous data. The availability of computers permits calculations that were probably not even conceived of in the rate cases of the 1940's and 1950's. Neither the more refined theories nor the availability of once incredible amounts of data has succeeded in eliminating controversy among the experts. Advances in data gathering and statistical theory have yet to achieve precise prediction of future events or elimination of the bias of the witnesses in their selection of data. Thus, there is no irrefutable testimony, no witness who has not made significant subjective judgments along the way to his conclusion, and no number that emerges from the welter of evidence as an indisputable 'cost' of equity. (p. 9).

In this case, we have been presented with five different methodologies by three different witnesses. Their conclusions as to the cost of equity ranged from 12.11% to more than 16%. Moreover, all of the witnesses agreed that during the course of the proceedings the marked changes in the money market had a significant impact on the cost of equity.

The Company's witness, Herman G. Roseman, adopted as his starting premise that the rate of return on equity should be sufficient to bring the market price of the stock to a level 10% above its book value. Using a group of 93 electric companies and their respective market prices during June, July and August, 1974, divided by their book values per share as of year end 1973, he attempts to "explain" the differences among the companies. Forty-six variables which might affect price-book ratios were subjected to a statistical technique known as stepwise multiple regression

to arrive at those variables which have the closest correlation. The 7 most statistically significant variables proved to be:

Rate of Return on Common Equity

AFUDC

Flow Through Accounting

Percent of Revenues Derived from Electricity

Oil as a Percent of Fuels Consumed

Square of Value Lines Projected Growth Rate in Net Plant 1973-1977

Ratio of Dividends to Cash Flow in 1973

The stable rate of return in 1973 and 1974, which results in an assumed price book ratio of 110%, can then be algebraically determined from the statistical model.

Stastreet presented John Raymond as a cost of capital witness. Using as a base, a group of 22 electric companies having electric operating revenues in excess of $100 million, deriving not more than 25% of operating revenues from gas sales, and having publicly traded stock and bonds with a Moody rating of Baa or better, he calculated the earnings-book value ratios and the earnings-price ratios for these companies for the period 1970 through 1974. He then calculated the earnings-price ratio for a one to one market price to book value ratio by means of the least squares statistical method. This ratio was 10.9%, which he adjusted for market pressure and selling expenses, arriving at a rate of return on common equity of 12.11%.

A third witness, Mr. Seeds, offered by the Attorney General and the Massachusetts Consumers' Council, used a

combination of three methodologies to arrive at his conclusion: the dividend yield method (sometimes known as the discounted cash flow method), earnings-price ratio method, and comparable earnings test method. He used 16 utilities with revenues in excess of $250 million for comparison. He first concluded that the Company's equity rate should be higher than the comparable companies' because of the greater risk of its common stock. Based on a June 18, 1975 dividend yield and growth rate, developed from 5 and 10 year averages of growth rates of customers, unit sales, earnings per share, dividends per share, market price, and average book value, he derived a 12.41% return on equity for the Company. The current earnings-price ratio method produced a return of 18.48%. He then calculated an arithmetic average of 5 returns on equity: the two described above, the 1973 return on common equity of the Company, the ten year average return on equity of the Company, and the five year average return on equity of the Company. The end result of his calculation was a 12.36% cost of equity to the Company. Since this result was greater than the average of the same data for the comparison companies, he determined that it was an appropriate return for the Company's equity.

We have reviewed Mr. Roseman's methodology in the past, e.g., *Boston Edison Company,* D.P.U. 17273 (March 21, 1973). His testimony in this case differs from that which he has presented in the past in that his present methodology seeks to arrive at a return on common equity designed to produce a given market to book ratio. In the past his testimony has been directed to determining the expected growth in dividend rates. Nevertheless, there is a marked similarity in approach. As in the past, he selects a market relationship in a given period and then ascertains statistically those variables said to be most closely correlated with that relationship.

The new analysis is subject to the same uncertainties as the previous one. Substantial differences in result occur when basic data from a different time is used, even though the interval between the two periods is quite short. Not only the relative weight of the variables, but also, the end result of the analysis, shifts substantially for no convincing reason. For example, when Mr. Roseman applied the January 31 price of the Company's stock and performed the analysis using data for the last half of 1974 as the values for his variables, the resulting cost of equity was almost one full percentage point below that derived in his original study.

His repeated assertion that his technique "explains" the differences in price-book ratios cannot be understood as a use of the term "explain" in its customary sense. The method, at best, shows only correlations between various data as of a given time. It does not prove a causal relationship between his determinations and the behavior of investors in the market.

The force of his conclusions is demonstrably weakened by the behavior of the market price of the Company's stock during the period in which he was submitting his testimony. His original conclusion was based on a market price of about $16 in November, 1974. It was subsequently revised at a time when the market price was $18.25 in February, 1975. The price subsequently reached $24 a share and is currently in the range of $21 - $22. His conclusions are thus cast in serious doubt by the failure of his methodology to anticipate the rise in prices and, more significantly, by the fact that they do not reflect the current price, although it is inherent in the methodology that the market price is a major determinant of the return on equity.

Moreover, several of the witnesses have raised questions about his technique. In particular, they note that the ap-

parently scientific nature of his statistical calculations are subject to major variations, depending on the selection of variables and the assumptions used in the manipulation of the data. Evidence has been offered that the stepwise multiple regression analysis itself was not properly applied. Without attempting to resolve this controversy, we note that a stepwise multiple regression analysis, purportedly using data for the same period, by another witness produced a return on equity of less than 13%.

Mr. Raymond's study was seriously weakened by the fact that his selected group of companies omitted many companies that met the criteria of selection he purported to use. Moreover, his reliance on averages over a 5 year period from 1970 to 1974 gives equal weight to the earlier years in which market and financial conditions differ substantially from the more recent periods. His cost of equity, before allowance for market pressure and expenses, was below the average bond yield in May, 1975, a factor which he did not satisfactorily explain.

Of the 3 witnesses, Mr. Seeds was the only one who did not restrict himself to a single method. He attempted to give weight to the various techniques which have customarily been employed by experts to ascertain the cost of equity. It is in the nature of all of the techniques, however, that a large subjective element controls the outcome, and, each technique has its inherent weaknesses. In using the discounted cash flow method, for example, he relied on a spot dividend yield, the use of which we have been critical in the past on the basis that it produces a result which varies with the day to day variations in stock market prices. His conclusions are also heavily weighted on data which are 5 and 10 years old. His view that a fair return on equity should not be distorted by undue reliance on depressed stock market conditions, which are not necessarily related to the Company's rate of earnings, is a sound one. On the other hand, the converse of that proposition, namely, that the more remote the period, the less likely it is to be representative of the near term future, must also play a large part in determining the fair return.

Neither Mr. Seeds nor Mr. Raymond gave significant weight to the last issue of securities by the Company in March, 1975, when it sold $46,650,000 of Preference Stock at a cost to the Company of 12.59%. Certainly, at that time, an issue of common stock, which is more risky, would have required a higher return in order to be attractive to investors. The rise in the price of the common stock since that date is strong evidence of a decline in the cost of equity. However, we are not persuaded by the testimony of either witness that the cost has fallen below the March cost of the Preference Stock. On the other hand, Mr. Roseman's conclusions neither account for nor take account of the fact that the market price has varied between 16% and 33% higher than the price on which his most recent testimony was based. Moreover, this increase in price has taken place at a time when the average price of the 16 utilities used by Mr. Seeds has declined.

Applying our judgment to the evidence in this case, we find that the cost of equity is 13%. In reaching this conclusion, we have given great weight to the evidence that the proper rate of return for the Company should be in the range of 12.11% to 12.41%. These determinations seem to reflect better analysis of actual market conditions than the 16% rate of return, suggested by Mr. Roseman. Our decision to place the Company's cost of common equity at 13% does, however, take into consideration that the Company's return on common equity should be higher than its return on the less risky Preference Stock.

With a return on equity of 13%, and a dividend payout of 72%, which is equal to the average payout of the 16 companies and substantially less than the Company's current payout, the Company's dividend would be $2.98, an increase of $.54 over the current dividend. This would produce a market price of $34.35, approximately 1.1 times book value, at a yield of 8.68%, which was the average yield of the 16 companies in June.

We therefore find that the fair rate of return may be summarized as follows:

Type of Security	% of Total Capital	Cost	Composite Cost
First Mortgage Bonds	44.03	7.6 %	3.35%
Note to First National Bank of Chicago	5.9	10.17	0.60
Note to First National City Bank of New York	7.38	7.75	0.57
Preference Stock	4.59	12.59	0.58
Preferred Stock	8.16	6.66	0.54
Common Equity	29.94	13.0	3.89
Rate of Return			9.53%

MYSTIC 7 GENERATING STATION

Perhaps the single most significant item presented for consideration in this proceeding is the treatment to be accorded the Company's Mystic 7 generating station, a 600 megawatt fossil fueled steam electric generating unit at Everett, Massachusetts. During 1974, the test year used for determination of cost of service in this case, the unit was under construction. It was placed in operation on June 14, 1975. The total cost of the plant is approximately $145 million, and the Company has proposed in this case to include the full amount of the cost in its rate base.

The determination of whether to include Mystic 7 in the rate base is not controlled by the recent case of *Southbridge Water Supply Company* v. *Department of Public Utilities*, 1975 Mass. Adv. Sh. 2245. In that case, the Supreme Judicial Court held that the use of the average year rate base would not be proper where the value of the Company's plant was increased by 60% due to the addition of a reservoir just prior to the close of the test year. In the present case, Mystic 7 did not become operational until almost six months after the test year and increases the Company's plant in service by approximately 13%. However, because the operation of Mystic 7 is a known change and because of its size and importance it does require special consideration. A decision by the Department which failed to recognize such a change would not be proper. Compare: *Boston Edison Company*, D.P.U. 17273 (March 21, 1973).

Although the average size of generating stations has been trending upward for many years, it has been a relatively recent development that the cost of one station can approach 20 to 25% of a Company's entire rate base. Moreover, the long periods of construction involved result in substantial balances in the construction work in progress account. Thus, a Company may experience several years of moderate growth in finished plant, followed by one year in which finished plant increases by a significant order of magnitude. There can be no assurance that that particular year will be a test year for rate making purposes. Thus, unintended distortions in the result of a Department rate decision may occur if appropriate recognition is not given to this phenomenon.

We find, therefore, that for purposes of this proceeding, the test year should be normalized, to the extent possible within the limits of objectivity, on the hypothesis that Mystic 7 was in operation throughout the test year. The con-

sistent application of this hypothesis requires the addition of approximately $145,000,000 to the Company's plant in service, but necessitates adjustments to the cost of service as well as other adjustments in arriving at the test year rate base.

TEST YEAR

The Company has once again argued that year-end balances should be used for test year purposes rather than year-average balances. Extended discussion of this contention would only be repetitious of the reasons the Department has repeatedly advanced for using an average for test year purposes. See *Mystic Valley Gas Company,* D.P.U. 16067 (November 28, 1969); *Boston Gas Company,* D.P.U. 16102 (January 8, 1970); *New England Telephone & Telegraph Company,* D.P.U. 16253 (June 10, 1970); *Boston Edison Company,* D.P.U. 17273 (March 21, 1973); *Cambridge Electric Light Company,* D.P.U. 18194 (September 30, 1975). Indeed, the reasons are particularly apt in this case, in view of our decision to include Mystic 7 in the rate base. The remaining difference between an average and a year-end rate base is approximately $8,000,000, which is hardly a significant amount when compared to the consequence of the inclusion of Mystic 7. Whatever the validity of the argument that the use of a year-end rate base is necessary to offset the effect of attrition, it cannot have application in this case, since the inclusion of Mystic 7 provides a buffer against any possible attrition many times larger than the effect of using year-end rate base.

COST OF SERVICE

The basic data for the determination of the cost of service are the results of the Company's operations during 1974. A number of adjustments suggested by the parties

are adopted by the Department based on the facts of this case. Thus, the rate increase granted in 1974 has been annualized and added to test year revenues; a projected increase in 1975 base revenues attributable to Mystic 7 has been included; contract revenues from Mystic 7 have been annualized; depreciation and property tax expenses have been annualized; operation and maintenance expenses have been annualized and increased to reflect the Company's 1974 wage increase and its projected 6% 1975 wage increase; the property tax expenses have been adjusted to reflect a settlement of a contested tax; depreciation expense has been reduced by the amount attributable to generating units retired during the test year; depreciation expense has been increased by additions to plant other than Mystic 7; property tax expense attributable to property sold during the test year has been eliminated; projected revenues from interest charges on unpaid non-residential accounts, which the Company will be permitted to collect commencing in 1975, have been added to operating revenue, revenues from contracts, entered into in the latter part of 1974 for the sale of power from Pilgrim Unit I, have been annualized and added to operating revenues, the additional expenses associated therewith have been added to operating expenses; and loss of revenue projected to result from the termination of certain wholesale contracts has been deducted from operating revenues.

CONTESTED COST OF SERVICE ADJUSTMENTS

1. Management Salary Increase

Some intervenors argued that the adjustment for the proposed 1975 salary increase of $323,000 for management personnel should be eliminated. The adjustment is based on a proposed salary increase equivalent to the wage in-

crease under a collective bargaining agreement which became effective on March 15, 1975 for union employees. There is no basis in the record for disallowance of this adjustment. However, the Department has received a productivity study of the Company's personnel, recently concluded by a firm of certified public accountants. In addition we have been made aware of, but have not yet received, a study by the National Association of Regulatory Utility Commissioners on electric company performance. We intend to review these studies and the Company's productivity in general. Such a review may furnish a basis for evaluating management salaries in a future rate case.

2. Load Research Study

The Company included $333,000 of expenses attributable to a load research study to be conducted in response to a reference in the Department's order in D.P.U. 17795-A. The Department has not been consulted as to the scope of or methods to be used in such a study. The question of the need for an appropriate load research study will be discussed below in the rate structure section. The inclusion of the expense in this rate case is therefore premature and should be excluded.

3. Depreciation of 345 KV Transmission Lines

Commencing on January 1, 1974, the Company applied a depreciation rate of 3.33% to its 345 KV transmission property. That rate has been questioned by some intervenors. This type of line represents the latest technology, and the Company's testimony is that it may have a shorter useful life than other types of electrical property, which is depreciated at a 3% rate. The Company's rate is consistent with that approved by the Internal Revenue Service; and, while that is not binding on the Department, the evidence

in the record does not substantiate a disallowance of this rate.

4. Property Tax on Old Edgar Station

Included in the Company's cost of service calculations are the property taxes assessed by the Town of Weymouth on the Company's real estate and personal property located in that town, in which its old Edgar Station, now retired, was located. The Town submits a single bill which does not separate the retired plant from the plant still in service.

An assessor of the Town testified that approximately 30% of the total tax assessed related to the retired facilities. The Company does not dispute the proposition that taxes on property no longer used and useful in the utility business should be excluded from the cost of service. Rather, it argues that the evidence is not convincing as to the amount of the total tax attributable to the retired facilities. However, no persuasive evidence contrary to that offered by the Town Assessor was adduced by the Company. We are constrained to find that the Company has failed to sustain its burden of proof on this issue and that therefore property taxes must be reduced by $898,830.

In its reply brief, the Company argues that at a hearing before the Appellate Tax Board, subsequent to the close of this case, the Town disclaimed that any part of the tax related to the retired facilities. In that brief the Company attaches an abstract from the purported transcript of the hearing before that Board. Quite apart from the facts that the Company's submission is inadmissible hearsay and not a part of this record, the meaning of the statements contained in the abstract is not at all clear. We therefore do not consider it.

5. Braintree Contract

In Boston Edison Company, D.P.U. 17795-A (July 31, 1974), the Department found that the revenues and expenses attributable to the Company's contract with the Town of Braintree should be allocated to its wholesale cost of service. The Company admits that it does not earn on that contract the rate of return that it seeks to derive from its retail business. The difference between the Company's earnings under the Braintree contract and the rate which this Department finds it should be permitted to earn in its retail business will be borne by the retail customers, unless this deficiency is eliminated from the retail cost of service.

Notwithstanding our prior findings, the Company has failed to make this elimination in the present case. It now argues that Braintree is not a firm customer and should be treated differently from its wholesale customers. The Company has not adduced any new evidence in this case which convinces us that the Braintree contract is no longer a firm one. For this reason, we do not change the prior decision of the Department in this matter. At the rate of return which we have found proper in this case, a deficiency in revenues is being experienced under the Braintree contract of approximately $861,000. This amount should be deducted from the retail cost of service.

6. Capacity of Pilgrim I

During the 1974 test year, the Pilgrim Unit No. I operated at 33.62% of its capacity. The operating expenses of the Company increase as the rate of use on Pilgrim I decreases. Thus, the operation of Pilgrim I at a below-normal rate in a test year would produce above-normal operating expenses. The Company has made repeated projections of the normal rate of operation of this unit, the first

of which was as high as 80%. In this case, the Company's own evidence was that a 60 to 61% rate could be expected; but, in its brief it argues that we should rely on a factor of 51.7% based on the experience of the first six months of 1975. On the basis of an expected load factor of 60%, which we find to be a reasonable approximation of normal operation, test year operating expenses must be reduced by $1,909,225.

7. Maintenance Expenses of Pilgrim I

The Company originally included in its test year cost of service slightly more than $5 million in repair and maintenance expenses associated with Pilgrim I. All of the parties apparently now agree that maintenance expenses from Pilgrim I were in excess of normal during the test year. The Company estimates that this abnormal expenditure was no greater than $1,000,000.

Another witness argued for a reduction of $1,663,550, the actual maintenance expenses during 1973 and a figure claimed to be consistent with an adjusted average of eight other nuclear units over a four-year period. The year 1973 was not a normal year for Pilgrim I, however, because it did not include any expenses for a refueling outage. Moreover, the study supporting the adjusted average arbitrarily excluded a number of nuclear units and took no account of differences in types or sizes of units.

We find that an adjustment of $1,000,000 is reasonable.

8. Interest Deductions

One of the more controversial aspects of this proceeding has been the appropriate interest deduction to be used in calculating the test year income tax. The Company has proposed certain normalization adjustments to the interest

expense; and, the intervenors are critical of the Company's use of actual interest expense during 1974, which fails to take account of the current interest rate and capital structure of the Company.

A. The debt portion of AFUDC, excluding the amount attributable to Mystic 7, has been normalized without objection from any of the parties. The intervenors argued, however, that the amount of AFUDC attributable to Mystic 7 must be eliminated, in order to be consistent with the hypothesis that this unit was in service throughout 1974. The Company's contention is that the amount of its adjustment approximates the average AFUDC balances from year to year.

The difficulty with this notion is that the Company can not have it both ways. If the test year is to be normalized by transferring an amount substantially in excess of construction work in progress into finished plant, there is no rational basis for also treating Mystic 7 as though it had been unfinished in 1974. To put the matter differently, when unfinished construction is treated as completed construction, the need for accruing AFUDC is eliminated; and, it is to be expected that such accruals will be less in the future. This expectation has been borne out by the fact that accruals in 1975 are less than they were in 1974. The Department, therefore, finds that the debt portion of AFUDC attributable to Mystic 7 can not be normalized.

B. The Company seeks also to normalize the equity portion of AFUDC accrued during 1974. This is a proposition never before suggested to the Department and stands on a quite different footing from normalizing the debt portion of AFUDC. As to the debt portion, the reason for normalization is that current rate-payers would otherwise receive a benefit in the form of reduced income taxes resulting from the interest expense currently incurred. That benefit is properly allocable to future rate-payers who bear the burden of the rate of return and depreciation charges on the new plant.

In the case of the equity portion of AFUDC, the Company is correct in pointing out that in the absence of normalization, depreciation charges attributable to the equity portion of AFUDC will not be deductible for federal income tax purposes. But, there is no benefit to present rate-payers which can be shifted to future rate-payers to offset this burden, as there is in the case of the debt portion of AFUDC. The Company proposes to reduce the burden on future rate-payers by imposing a portion of that burden on current rate-payers. Its argument in favor of this suggestion is that it is somehow "fair". We disagree. Fairness requires that those who will benefit from the use of the new plant bear the burdens of its operation; and, we find that the Company's proposal to normalize the equity portion of AFUDC, amounting to $7,154,000, must be rejected.

The foregoing discussion on the question of normalization of AFUDC raises the broader question of the appropriateness and the extent of the use of normalization in rate-making. The Department in future rate cases of this and all other companies will take a close look at this procedure.

C. The Company's calculation of the interest deduction for its Series O Bonds is based on interest actually accrued during 1974. Stastreet has countered with adjustments to reflect the annualization of interest charges on debt issued during the year. The Department believes that the reasons for calculating the cost of debt based on the most current data available apply with equal force to the calcula-

tion of the cost of debt for purposes of reckoning test year income taxes. Use of past interest deductions can only be a distorting influence on attempts to fix a fair rate of return for the future, particularly where significant change occurred in connection with the Company's debt during the test year. Income taxes should, therefore, be calculated on the basis of the Company's currently outstanding long-term debt, its currently outstanding short-term debt, and a prime rate of interest at 8.625%. Accordingly, the interest on the Series O Bonds must be annualized for the test year and the interest on the Bank of Chicago note calculated using a prime rate of 8.625%.

D. If the debt portion of AFUDC attributable to Mystic 7 is eliminated and the interest on the Series O Bonds is annualized, the Company contends that these adjustments would be offset by the decrease in interest expense due to the retirement of short-term debt and the fact that there would have been no need for short-term borrowing from January, 1974 to August, 1974, when the Series O Bonds were issued. We note, however, that the Company is continually incurring new short-term debt and that the current amount of such debt is approximately $115 million which is equal to the Company's average outstanding short-term debt for 1974. As Stastreet pointed out in its brief, even though the Company issued $60,000,000 of Series O Bonds in August, 1974 and $50,000,000 of Preference Stock in March, 1974, its short-term debt outstanding in 1975 should be at least equal to, and probably higher than the short-term debt outstanding during the test year. For these reasons, we find that it is not necessary to make the offsetting adjustments suggested by the Company with respect to the interest deduction.

9. Income Tax Deduction

The contention has again been raised that cost of service should not include any amounts for income taxes because of the net operating loss deduction which the Company experienced in the test year. This contention is without merit. The Department dealt with the same contention in *Boston Edison Company,* D.P.U. 17795 (April 12, 1974) as follows:

> In any case, the tax benefit will not be a reduction in operating expenses, the effect of which ought to be passed on to rate-payers, but will simply be a reduction in the cash payments required for income taxes in recognition of the loss which has already occurred. Since rate relief operates only in the future, this loss will never be recouped by the Company, and it would be unfair to pass to customers a benefit intended as partial relief for a loss, the burden of which never fell on the customers. (p. 9).

The Company's test year adjusted operating results before income taxes may, therefore, be summarized as follows:

	($000 Omitted)		
Operating Revenues Prior to Adjustment		$432,476	
Annualization of 1974 Rate Increase	$21,508		
Projected Increase in Base Revenue	6,379		
Annualization of Mystic #7 Contract Sales	7,609		
Interest on Overdue Accounts	1,700		
Sales to Municipal from Pilgrim	2,426		
Loss of NEPCO Revenue (system)	(2,770)		
Loss of NEPCO Revenue (Quincy)	(3,683)		
Projected Wheeling Revenue	1,312		
Deficiency on Braintree Contract	861	35,342	$467,818
Operating Revenue — Adjusted			—
Operating and Maintenance Prior to Adjustment		261,243	
1974 and 1975 Wage Increases	5,511		
Fuel Expenses Attributable Pilgrim Sale	234		
Load Research Study	(333)		
Pilgrim Capacity Adjusted	(1,909)		
Pilgrim Maintenance Adjusted	(1,000)	2,503	
		263,746	
Taxes other than Income Prior to Adjustment		62,132	
Annualization Mystic Property Taxes	1,932		
Settlement with Everett	(2,854)		
Tax Associated with Sold Property	(167)		
Taxes Related to Retired Plant	(899)	(1,988)	
		60,144	
Depreciation Prior to Adjustment		33,602	
Elimination of Mystic 1, 2 and 3	(48)		
Annualization of Mystic #7	5,112	(5,064)	
Total Expenses — Adjusted		38,666	362,556
Net Income Before Income Taxes			$105,262

RATE BASE

The Company proposed a rate base of $1,005,181,000, based on 1974 year-end balances. The determinations which have been made with respect to operating income and expense items require correlative adjustments in the rate

base, e.g., the use of an average test year, inclusion of Mystic 7 in finished plant, retirement of Mystic 1, 2 and 3, and normalization of AFUDC. Other adjustments have been disputed by the parties.

1. Working Capital

The Company calculated cash working capital on the basis of 45 days of operation and maintenance expenses, after deduction of purchased power expenses. The Company's allowance for this item must be reduced by ⅛ of the net decreases in operating and maintenance expenses resulting from adjustments made in the cost of service as follows:

	($000 Omitted)
Fuel Expense Pilgrim Sales	234
Load Research Study	(333)
Pilgrim Cap. Adj.	(1,909)
Pilgrim Main. Adj.	(1,000)
Total	(3,008)

In addition to the standard cash working capital calculation described above, the Company proposes to add to rate base two other allowances: deferred fuel charges and compensating balances. The Department will allow the adjustment for deferred fuel charges in this case. However, it should be pointed out that when a uniform fuel clause is adopted this adjustment may no longer be necessary. Moreover, the Department will consider adjusting the uniform fuel clause so as to account for the inclusion of deferred fuel costs in the rate base.

The Company proposes to include in rate base $17,944,000, which represents compensating balances which the Company is purportedly required to maintain in banks extending it short-term credit. This proposed adjustment has

been considered by the Department in the past and rejected. *Brockton-Taunton Gas Company,* D.P.U. 17750 (December 12, 1973); *Fall River Gas Company,* D.P.U. 17708 (October 11, 1973); *Boston Gas Company,* D.P.U. 17461 (June 29, 1973). The effect of this adjustment would be to permit the Company to earn a return at the rate of the composite cost of capital on balances for which it is likely paying a lower rate of interest. In short, the rate-payer will be charged a higher rate than the Company itself is paying with no benefit to the rate-payer. As the Department stated in *Fall River Gas Company, supra,* the main difficulty with this adjustment is that capital costs become intermingled with operating cost.

Another problem is that the inclusion of these amounts eliminates the incentive of the Company to take advantage of any competition which may exist among lenders for the business of the Company.

In the prior cases where this adjustment has been rejected, the Department has pointed out that the necessity for these balances should be clearly established as part of a working capital lag study. In the absence of such a study, in this case, we find that this proposed adjustment is not proper.

For these reasons, we exclude the compensating balances as an adjustment to rate base.

2. Portion of Pilgrim I Sold

Intervenors propose the exclusion from the December 31, 1973 balance of plant in service of certain portions of Pilgrim I which were sold during 1974 to other utilities as part of their participation in the construction of Pilgrim II. This sale represents a known change during the test year. Since the plant has been sold, the Company is no longer

entitled to earn a return on it. We find, therefore, that this item should be excluded from rate base.

On the other hand, we cannot accede to the argument that the portion of the common facilities retained by the Company should also be excluded until Pilgrim II is completed. Since the evidence in this case indicates that the facilities were designed to be used by Pilgrim I and Pilgrim II and, that they in fact are being used by Pilgrim I, they should be included in the rate base. See: *Uniform System of Accounts for Electric Companies,* sec. 107, p. 33.

3. Plant Held for Future Use

The Company has included approximately $4,000,000 in rate base representing a pollution control device known as a scrubber. The evidence shows that the scrubber is not now in service. Moreover, there is no evidence that the Company has any definite plan for the future use of this equipment.[5] Therefore, we find that this item should be excluded.

4. Items Normalized in D.P.U. 17273

In *Boston Edison Company,* D.P.U. 17273 (March 21, 1973), the Department allowed the Company, in calculating its test year income expense, to eliminate from its tax deductions certain items which, though deducted on its tax return, were capitalized for book purposes. As a corollary, the rate base was reduced by tax savings resulting from the difference between tax and book reporting. In *Boston Edison Company,* D.P.U. 17795 (April 12, 1974), the Company failed to deduct these amounts from rate base

[5] Indeed, it may be questioned whether it should be included in the Property Held for Future Use Account. See: *Uniform System of Accounts for Electric Companies,* sec. 105, p. 32.

on the theory that the experienced earnings did not provide any tax benefits. The Department held that these tax benefits should be treated as if they had been reserved. In this case, the Company has reiterated the argument advanced in D.P.U. 17795, *supra*.

The repeated disputes over the amounts of deferred tax liability that should be deducted from the rate base suggest that our practice of allowing the Company to calculate and report the amounts only in rate cases will lead to unnecessarily time consuming hearings and uncertain results. For this reason, the Department is considering an amendment to the Uniform System of Accounts, which will require companies to record and account for these deferred items on a regular basis, independent of rate cases. In the interim, a condition of allowing these deferrals was that they were to be reserved for rate case purposes. In such rate cases, the Company should treat the reserves as having been amortized over the life of the property to which they relate. We believe it is unfair to allow the Company to be selective in determining the amount of the deductions. Therefore, an amount should be deducted from rate base to reflect properly these items."

The appropriate rate base may be calculated as follows:

Plant in Service	$1,095,793	
Accumulated Depreciation	(292,969)	802,824
Additions		
Nuclear Fuel	34,969	
Pilgrim Sub Station	3,061	
Unamortized Sales Promotion Allowance	4,410	
Unamortized Interest Payments	2,573	
Materials and Supplies	20,746	
Working Capital	28,643	
Deferred Fuel	20,540	114,942
Deletions		
Retired Pilgrim #1	(2,811)	
Plant Held for Future Use	(4,504)	
Capital Property Tax	(537)	
Contribution for Construction	(1,663)	
Deferred Income Taxes	(62,810)	
Items Normalized per DPU 17273	(2,218)	
Unamortized Investment Tax Credit	(6,375)	
Construction Advances	(584)	
Customer Deposit	(2,714)	(84,216)
Mystic 7	145,120	
Depreciation on Mystic 7	(5,112)	140,008
RATE BASE		$973,558

The Revenue deficiency may therefore be calculated as follows:

Rate Base	$973,558
Return at 9.53%	92,780
Test Year Net Income before Income taxes	105,262
Income taxes	26,523
Test year net income after taxes	78,739
Return Deficiency	14,041
Income taxes thereon	14,838
Revenue Deficiency	28,879
Retail Revenue Deficiency — 92%	$ 26,702

RATE STRUCTURE

After having determined the total revenue required, we must consider a rate design which produces such revenue in the most equitable manner possible. The California Public Utilities Commission recently noted in *Pacific Gas and Electric Company,* P.U.C. 84902 (September 16, 1975), that the generally accepted attributes of a good rate structure are:

> Production of the revenue requirement.
> Simplicity and ease of understanding.
> Stability of revenue.
> Fair apportionment of cost of service.
> Discouragement of wasteful use.
> Encouragement of efficient operation of system. (p. 132)

In this case, the parties have proposed various ways of seeking to achieve these attributes.

The Company urges us to apply the criterion of demand, as reflected by the contribution each class of customers makes to peak loan and therefore to the need for new capacity and new investment, as the determinative factor.

Intervenors, Citizens' Action Program on Energy ("CAP-E"), the Attorney General, the Massachusetts Consumers Council and Stanley U. Robinson III, argue that ability to pay should be a factor in rate setting, that electricity is a basic necessity and that low income residential customers are the system's low kilowatt users. They, therefore, advocate the so-called lifeline concept of exempting the first 300 KWH of residential usage from any granted increase.

The Attorney General and the Massachusetts Consumers Council further argue that residential users are the least responsible for the increased demand and thus should not be required to bear its cost.

Intervenors, General Motors, General Services Administration and Stastreet support a structure exclusively based on cost, aimed at equalizing the rate of return received from each class of customers. In the alternative, they support an equal percentage surcharge on presently existing rates.

The Company's Director of Rate Research and Forecasting testified that due to the advent of air-conditioning in the 1940's, the Company gradually changed from a winter peaking to a summer peaking system. He further testified that the Company's forecasting studies show a steady progression in summer peak growth, and that it costs the Company more to supply a peak load than an off-peak load.

Accordingly, on the basis of its knowledge of its customers' load patterns and its experience with the system, the Company identified the classes which contribute most heavily to the growth of summer peak and gradually assigned them proportionately higher charges over the course of recent rate cases. Thus, the rates the Company has proposed in the instant case were developed by increasing the present rates in proportion to the amount each class of customers contributes to the growth of peak as indicated by the preliminary results of an average and excess method of load allocation study, with minor adjustments made to recognize specific conditions affecting particular rates.

On the evidence presented in this case, we agree with the Company that this method is the most reasonable way of structuring rates under present conditions. It insures that no class of customers makes use of capacity without making some contribution toward its cost; while, at the same time, it imposes the largest charges upon those who make the largest contribution to the growth of peak.

On the basis of the evidence presented by the Company and the arguments of the Attorney General and the Massachusetts Consumers Council, we are persuaded that the peak for commercial and industrial customers occurs at the same time as the system peak; and, therefore, that it is this class of customers, rather than the residential customers who have occasioned the Company's shift to a summer peaking system and who continue to contribute most heavily to its growth. These customers are thus most directly responsible for the Company's need for increased revenues to provide new capacity, the cost of which far exceeds the cost of embedded capacity.

General Motors, General Services Administration and Stastreet have objected that such a structure perpetuates and intensifies the present unequal rates of return among the Company's classes of customers and fails to take into account the relative cost of service of each of these classes. In support of this position, General Motors presented testimony advocating the application of a percentage increase to each rate class equal to the average increase divided by the index of return.

Even General Motors' own witness, however, acknowledged that the rate structures of most utility companies throughout the country yield varying rates of return and that commercial and industrial users generally provide the higher rate of return because of their greater contribution to demand. In this connection, we note that the Court of Appeals of the District of Columbia, in reviewing the recent decision of the District of Columbia's Public Service Commission in which the first 400 KWH of residential usage were exempted from the granted increase, held that there is no requirement for each class of customers to produce equal rates of return. *Apartment House Council of Metropolitan Washington, Inc.* v. *Public Service Commis-*

sion of the District of Columbia, 332 A. 2d 53 (D.C.C.A. 1975); *see also*: *Pacific Gas and Electric Company,* California P.U.C. 84902 (September 16, 1975), in which the California Public Utilities Commission exempted the first 300 to 500 KWH of residential usage (depending upon geographic area) from the granted increase.

As for the alleged failure of the demand system to reflect actual cost of service to each class of customers, General Motors' witness admitted that cost is only one factor in rate making and that any rates which discouraged on-peak consumption and reduced the need to build new plants would also tend to improve the system load factor and thereby provide efficient use of the utility's facilities.

General Motors, General Services Administration and Stastreet have also drawn our attention to the fact that the Company's proposed structure is not based on adequate studies. While we recognize that the Company's studies are not final, we also recognize that the studies submitted by General Motors and CAP-E also failed to present an adequate analysis of the interdependence of demand, growth and cost. Under these circumstances, we are persuaded by the Company's argument that through its experience, its knowledge of its own system and its customers' load shapes and the use of load data developed by others, it is possible for it to make a good approximation of contribution to growth of peak and the effect peak demand has on its cost of service.

We, therefore, adopt in principle the rate structure proposed by the Company, as modified below. We will, however, retain jurisdiction over this matter as it pertains to rate structure and, working cooperatively with the parties, will conduct a study of rate structure in terms of demand, peak load pricing and cost of service, with a goal of achiev-

ing a method of reduction of demand and allocation of cost that will effectuate the most efficient and conservative use of power possible.

We find the evidence presented in this case relative to the relationship between income and usage inconclusive and insufficient to support the adoption of the "lifeline" concept. The testimony, however, shows that while commercial and industrial demand has increased over the past years, residential usage has remained relatively steady at an average of 384 KWH per month. Having been persuaded by the Company's and the Attorney General's arguments concerning the merits of allocating the granted increase in proportion to the contribution each class of customers makes to the growth of peak load demand and, therefore, to the need for increased revenues, it follows that a portion of residential usage which has not contributed to this increase in demand should not be required to bear its cost.

Accordingly, since the average residential use is 384 KWH, we direct that the Company's proposed schedule be modified by exempting the first 384 KWH of residential usage and proportionately increasing the amount of the granted increase to be shared by the other classes and residential users of more than 384 KWH.

We set this 384 KWH average figure as the exemption level, rather than the arbitrary 300 KWH figure advanced by some intervenors, since it is more nearly reflective of the portion or residential usage which has not contributed to the growth of peak. We are persuaded, however, that there is some residential usage which has contributed to the growth of peak and that there are other cost factors, such as construction costs attributed to transmission facilities, which must also be reflected in the amount of increase borne by residential customers. Our use of the average KWH

figure reflects this fact by taking into account the probability that some low income residential users have reduced their usage out of necessity, while other, more affluent users, have increased their usage through the addition of such items as air-conditioning.[6]

Thus, although our decision is not based on the lifeline concept, we expect that our exemption from the increase of the first 384 KWH of residential usage, on the basis that these customers have not contributed to the growth of peak demand, will provide some information upon which an assessment of lifeline can be made.

We are also aware of our obligations concerning the encouragement of conservation and protection of the environment. In this connection, we recognize that conflicting viewpoints concerning the effect of peak-load pricing and lifeline on conservation have been presented. The Attorney General argues that such structures will foster conservation, while General Motors argues that they will stimulate use among residential customers. We believe that our adoption of the Company's proposed rate structure, as modified by the exemption from the increase of the first 384 KWH of residential usage, concomitant with our retention of jurisdiction to further study and investigate the issue will provide us with data on this question.

Although the restructuring of all rates is presently under consideration in our generic rate structure case, D.P.U. 18072, we need not defer the restructuring of these rates until the conclusion of that case. The question of who should properly bear this increase is a matter of immediate concern to all affected. D.P.U. 18072 involves other utili-

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[6] The study, which we will undertake in accordance with this order, may well result in a rate structure which obviates any exemption of residential usage.

ties as well as the Company. A plethora of interested parties has intervened, making a decision in the matter in the near future unlikely. We have, therefore, decided the rate structure issue, here presented, on the basis of the record before us and expect that the further study we have directed in conjunction with this decision will help us to resolve some of the issues pending in the generic rate structure case.

Finally, the Company has submitted "a proposed program of public education designed to inform the public of the high costs resulting from peak load demand and a proposed plan for the development of incentives to discourage peak use of electricity by the public" pursuant to the order of the Department in *Boston Edison Company*, D.P.U. 17795-A (July 31, 1974). The Department will not comment on the adequacy of the submission at this time. The Company's conservation education program should be integrated with the study on rate structure which we have discussed herein, with the ultimate aim of acquainting the public with the consequences of peak use and ways in which peak usage can be minimized.

MOTIONS

On the last day of hearing in this matter, certain motions were taken under advisement, we hereby rule upon these Motions as follows:

The Motion of CAP-E to Introduce the Testimony of Witness MacEwan into Evidence is granted.

The Motion of CAP-E to amend its Petition by Including 20 Customers as Parties is granted.

The Motion of Stanley U. Robinson III for the Commission's reversal of the Hearing Officer's Decision denying his Surrebuttal is denied.

After the close of this proceeding, certain additional Motions were filed by mail. Without approving the propriety of such procedure, we hereby rule on these Motions as follows:

The Motions of Stastreet and the Attorney General and the Massachusetts Consumers' Council to strike from the Reply Brief of the Company, all references to the Appellate Tax Board proceedings relative to the Company's property in the Town of Weymouth is rendered moot by our treatment of the subject matter of these motions in our decision.

The Motion of Stastreet for the Department to Take Administrative Notice of the Sworn Direct Testimony of Donald G. Allen in Docket No. E-9420 is denied.

The Motion of the Company to Strike from Stastreet's Reply Brief, the second and third full paragraphs on page 10, together with Schedule A attached thereto is denied.

The Motion of the Company to Strike in its Entirety, the Reply Brief of Stanley U. Robinson III is denied.

On the last day of hearings, parties were given an opportunity to move for the admission into evidence of previously marked exhibits. Subsequently, Stanley U. Robinson III moved by letter the introduction of certain Exhibits. This motion is allowed.

The Company, the Attorney General and Massachusetts Consumers Council, and Stastreet have filed requests for rulings.

As to the Company's requests, we grant requests numbered 1, 2, 3, 4, 5, 21, 26, and 48. We deny requests numbered 8 and 9. As to the other requests we find that they are either inapposite or fully treated elsewhere in this order.

As to the requests of the Attorney General and the Massachusetts Consumers Council, we grant requests numbered 15, 21, 22, and 23. We deny the request numbered 24. As to the other requests we find that they are either inapposite or fully treated elsewhere in this order.

As to the requests of Stastreet, we find that they are all fully treated elsewhere in this order.

Should any ruling on the above requests be inconsistent with any part of this order, it is intended that the order should prevail.

Accordingly, after due notice, hearing, investigation and consideration, it is

ORDERED: That M.D.P.U. Numbers 277 through 293 filed by the Company on November 12, 1974 be and hereby are disallowed; and it is further

ORDERED: That the Company may file new schedules of rates and charges designed to produce additional gross annual revenues of $26,702,000; and it is further

ORDERED: That the new schedules shall be designed in accordance with the allocation used by the Company in this case, except that the first 384 KWH of residential usage shall be exempted from the increase in the rates and the amount attributable to the exemption shall be allocated to the other classes including residential customers using over 384 KWH on the same basis as the total increase; and it is further

ORDERED: That such new rates shall become effective as to power consumed on and after the date hereof, not earlier than seven days after the filing thereof together with supporting data demonstrating that such schedules are in compliance with this order; and it is further

ORDERED: That the Department shall retain jurisdiction of this case for the purposes of conducting a study relating to the Company's rate structure as described above.

By Order of the Department,

/s/ Harold J. Keohane
Harold J. Keohane
Chairman

A true copy

Attest:

Harold J. Keohane
Chairman

Appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the order of the Commission be modified or set aside in whole or in part.

Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. (Sec. 5, Chapter 25, G.L., Ter Ed. as most recently amended by Chapter 485 of the Acts of 1971).

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

October 17, 1975

D.P.U. 18200 (Amended Order)

Investigation by the Department on its own motion as to the propriety of the rates and charges set forth in the revised pages of the tariff filed by the Boston Edison Company.

D.P.U. 18200-A (Amended Order)

Investigation by the Department upon its own motion as to the propriety of the request of Boston Edison Company for approval by the Department of Public Utilities of Emergency Interim Rate Relief in the amount of $47.700 million in additional revenues by means of a uniform flat percentage surcharge to be applied to all customers.

APPEARANCES: Ropes & Gray, (by: Edward B. Hanify, Esq., and William G. Meserve, Esq., of counsel.) 225 Franklin Street, Boston, Massachusetts.

Thomas E. Capps, Esq., General Counsel and Victor W. Kazanjian, Esq., General Counsel and John J. Desmond, III, Esq., Associate General Counsel, 800 Boylston Street, Boston, Massachusetts, for Boston Edison Company.

Francis X. Bellotti, Attorney General, (by: Paul K. Connolly, Jr., Lindsay Johnson, Special Assistant Attorneys General, and Charles Gamer and Michael Meyer, Assistant Attorneys General,) State House, Boston, Massachusetts, for the Attorney General and the Massachusetts Consumers' Council.

APPEARANCES: (Continued) Harold S. Trimmer, Jr., General Counsel, and Maurice J. Street, Assistant General Counsel, (by: Clinton P. Swift, Esq., and John J. Cassidy, Esq., of counsel,) 18th & F Street, Washington, D.C., 20405 on behalf of the Federal Executive Agencies.

Anthony P. Sager, 698 Massachusetts Avenue, Cambridge, Massachusetts, for the Citizens' Action Program on Energy.

Andrew J. Newman, Esq., Guterman, Horvitz, Rubin & Rudman, Three Center Plaza, Boston, Massachusetts 02108, for Stastreet Trust, et al.

Philip J. McLellan, President of the American Association for Concerned Investors, 28 Main Street, Keene, New Hampshire 03431.

Nutter, McClennen & Fish, (by: Peter L. Brown, Esq., and Laurence M. Johnson, Esq.,) 75 Federal Street, Boston, Massachusetts, for the General Motors Corporation.

Norman C. Ross, Esq., Assistant Corporation Counsel, for the City of Boston and Boston Consumers' Council, Boston City Hall, Boston, Massachusetts.

William S. Abbott, Esq., Plymouth County Nuclear Information Committee, 28 State Street, Boston, Massachusetts.

Stanley U. Robinson, III, 9 Wheelock Road, Wayland, Massachusetts, pro se.

Torgeir K. Kvale, pro se.

AMENDED ORDER

On September 30, 1975, the Department entered its Order and Decision in this proceeding. On October 2, 1975, Boston Edison Company ("Company") filed a Motion for Recalculation of the Revenue Deficiency. The proposed recalculation is based on two grounds. First, the amount of the Company's property tax settlement with the City of Everett was deducted twice in the calculation of property taxes. Second, the amount of accumulated depreciation was overstated by $1,086,000. This amount was deducted from plant in service in the calculation of rate base.

On October 7, 1975, the Company, without waiving its rights to appeal or its Motion for Recalculation of the Revenue Deficiency, filed new schedules of rates and charges designed to produce the $26,702,000 in additional revenues allowed by the Department in its Decision and Order of September 30, 1975, together with the supporting data required by that Order. Subsequently, on October 9, 1975, the Company, without waiving its right to appeal, submitted certain substitute schedules of rates and charges which it proposed to put into effect in the event its Motion for Recalculation of the Revenue Deficiency was allowed by the Department. Those substitute schedules of rates and charges were designed to produce $29,538,000 in additional revenues, and they, too, were accompanied by appropriate supporting data.

On October 7, 1975, one of the Intervenors in this proceeding, Stanley U. Robinson, III, filed an Opposition to the Company's Motion to Recalculate the Revenue Deficiency. Subsequently, on October 14, 1975, he filed an Opposition to the Proposed Rates and Further Opposition to the Proposed Recalculation.

A hearing was held on the Motion and the Opposition thereto on October 16, 1975. At the hearing, none of the Intervenors, except Stanley Robinson, objected to the Company's proposed recalculations. The Company opposed those recalculations suggested by Intervenor Stanley Robinson.

In addition to the proposed recalculations, Intervenor Stanley Robinson also questioned whether the rates filed by the Company complied with our original Order and Decision with respect to the exemption for the first 384 KWH of residential usage.

After reviewing the calculations in our original Order and Decision and the recalculations proposed by the parties, we find that the corrections proposed by the Company are proper and that there is no basis for making any other recalculations. Accordingly, the calculations of the Company's Net Income Before Income Taxes, Rate Base and Retail Revenue Deficiency, as set forth on pages 29, 35 and 36 of our original Order and Decision, must be corrected. We have, therefore, prepared corrected copies of each of these schedules which are attached hereto as Attachments A, B and C respectively.

In light of our conclusions with respect to the suggested corrections of our calculation of the retail revenue deficiency, we find that it is appropriate for the Company to put into effect the proposed substitute schedules of rates and charges which it submitted to the Department on October 9, 1975. Although Intervenor Robinson has questioned the design of these rates, we find, after review, that they properly implement the 384 KWH exemption for residential usage required by our original Order and Decision and are otherwise designed in accordance with the design originally proposed by Boston Edison Company in this case. As a

result, we find that the substitute schedules of rates and charges filed by Boston Edison Company on October 9, 1975, comply with our original Order and Decision as corrected by this Order.

Accordingly, after notice, hearing and consideration, it is

ORDERED: That the calculation of the Company's Net Income Before Income Taxes, as set forth on page 29 of the Order and Decision of September 30, 1975, be and hereby is deleted therefrom and the corrected calculation of Net Income Before Income Taxes, as set forth in Attachment A hereto, be and hereby is substituted therefor on page 29 of said Order and Decision with the same force and effect as if originally issued; and it is further

ORDERED: That the calculation of the Company's Rate Base as set forth on page 35 of our original Order and Decision be and hereby is deleted therefrom and the corrected calculation of Rate Base, as set forth in Attachment B hereto, be and hereby is substituted therefor on page 35 of said Order and Decision with the same force and effect as if originally issued; and it is further

ORDERED: That the calculation of the Company's Retail Revenue Deficiency, as set forth on page 36 of our original Order and Decision, be and hereby is deleted therefrom and the corrected calculation of Retail Revenue Deficiency, as set forth in Attachment C hereto, be and hereby is substituted therefor on page 36 of said Order and Decision with the same force and effect as if originally issued; and it is further

ORDERED: That our Order and Decision of September 30, 1975 be and hereby is amended so as to permit Boston Edison Company to put into effect immediately the sub-

stitute schedules of rates and charges filed on October 9, 1975, and bearing M.D.P.U. Nos. 294A through 310A, which schedules are designed to produce additional gross annual revenues of $29,538,000; and it is further

ORDERED: That said substitute schedules of rates and charges shall apply to all power consumed on and after September 30, 1975.

By Order of the Department,

/s/ Harold J. Keohane

Harold J. Keohane
Chairman

A true copy

ATTEST

Harold J. Keohane
Chairman

ATTACHMENT A

($000 Omitted)

Operating Revenues Prior to Adjustment		$432,476	
Annualization of 1974 Rate Increase	$21,508		
Projected Increase in Base Revenue	6,379		
Annualization of Mystic #7 Contract Sales	7,609		
Interest on Overdue Accounts	1,700		
Sales to Municipal from Pilgrim	2,426		
Loss of NEPCO Revenue (system)	(2,770)		
Loss of NEPCO Revenue (Quincy)	(3,683)		
Projected Wheeling Revenue	1,312		
Deficiency on Braintree Contract	861	35,342	
Operating Revenue — Adjusted			$467,818
Operating and Maintenance Prior to Adjustment		261,243	
1974 and 1975 Wage Increases	5,511		
Fuel Expenses Attributable Pilgrim Sale	234		
Load Research Study	(333)		
Pilgrim Capacity Adjusted	(1,909)		
Pilgrim Maintenance Adjusted	(1,000)	2,503	
		263,746	
Taxes other than Income Prior to Adjustment		62,132	
Annualization Mystic Property Taxes	1,932		
Tax Associated with Sold Property	(167)		
Taxes Related to Retired Plant	(899)	866	
		62,998	
Depreciation Prior to Adjustment		33,602	
Elimination of Mystic 1, 2 and 3	(48)		
Annualization of Mystic #7	5,112	(5,064)	
Total Expenses — Adjusted		38,666	365,410
Net Income Before Income Taxes			$102,408

ATTACHMENT B

The appropriate rate base may be calculated as follows:

Plant in Service	$1,095,793	
Accumulated Depreciation	(291,883)	803,910
Additions		
Nuclear Fuel	34,969	
Pilgrim Sub Station	3,061	
Unamortized Sales Promotion Allowance	4,410	
Unamortized Interest Payments	2,573	
Materials and Supplies	20,746	
Working Capital	28,643	
Deferred Fuel	20,540	114,942
Deletions		
Retired Pilgrim #1	(2,811)	
Plant Held for Future Use	(4,504)	
Capital Property Tax	(537)	
Contribution for Construction	(1,663)	
Deferred Income Taxes	(62,810)	
Items Normalized per DPU 17273	(2,218)	
Unamortized Investment Tax Credit	(6,375)	
Construction Advances	(584)	
Customer Deposit	(2,714)	(84,216)
Mystic 7	145,120	
Depreciation on Mystic 7	(5,112)	140,008
RATE BASE		$974,644

ATTACHMENT C

The Revenue Deficiency may therefore be calculated as follows:

Rate Base	$974,644
Return at 9.53%	92,884
Test Year Net Income Before Income Taxes	102,408
Income Taxes	25,056
Test Year Net Income After Taxes	77,352
Return Deficiency	15,532
Income Taxes Thereon	16,414
Revenue Deficiency	31,946
Retail Revenue Deficiency — 92.462%	29,538

Appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the order of the Commission be modified or set aside in whole or in part.

Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. (Sec. 5, Chapter 25, G.L. Ter Ed. as most recently amended by Chapter 485 of the Acts of 1971).